NATURAL RESOURCES

Economic and Revenue Forecast

Fiscal Year 2011
Fourth Quarter

June 2011

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

Acknowledgements

The Washington Department of Natural Resources' (DNR) *Economic and Revenue Forecast* is a collaborative effort. It is the product of information provided by private individuals and organizations, as well as DNR staff. Without their contributions, the quality of the Forecast would be greatly diminished.

We want to extend special thanks to those who provided information as part of our DNR timber sale purchasers' survey. These busy individuals and companies willingly provided information that is essential for forecasting timber removal volume.

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I would especially like to recognize the contributions Phil Aust has made to the Department and to its Economic and Revenue Forecasts. At the end of May, Phil retired after a 31 year career working on economic topics, projects, and issues for DNR. In recent years, Phil was DNR's Lead Economist and he was responsible for developing the Forecasts, including the previous March 2011 Forecast. My thanks to Phil for his support and patience in helping me understand how to do the Forecast.

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Hard copies of this Forecast are available upon request from:

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This Forecast is also available on the DNR website:

http://www.dnr.wa.gov/BusinessPermits/Topics/EconomicReports/Pages/econ_timb_rev_forcsts.aspx

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Acronyms and abbreviations

bbf	Billion Board Feet
bl	Barrel of crude oil
CDN$	Canadian dollar
CPI	Consumer Price Index
Cwt	Hundred pounds
CY	Calendar Year
DNR	Washington State Department of Natural Resources
FDA	Forest Development Account
Fed	U.S. Federal Reserve Board
FOMC	Federal Open Market Committee
FY	Fiscal Year
GDP	Gross Domestic Product
IMF	International Monetary Fund
ISM	Institute for Supply Management
mbf	Thousand board feet
mmbf	Million board feet
NAFTA	North American Free Trade Agreement
OPEC	Organization of Petroleum Exporting Nations
PPI	Producer Price Index
Q1	First quarter of year (similarly Q2, Q3, and Q4)
QE2	Quantitative Easing, Round 2
RCW	Revised Code of Washington
REIT	Real Estate Investment Trust
RISI	Resource Information Systems, Inc.
RMB	Renminbi, China's currency − the basic unit is the yuan
RMCA	Resource Management Cost Account
SA	Seasonally Adjusted
SAAR	Seasonally Adjusted Annual Rate
TIMO	Timberland Investment Management Organization
US$	U.S. dollar
WWPA	Western Wood Products Association
WTO	World Trade Organization
Y	Japanese yen

Preface

This *Economic and Revenue Forecast* projects revenues from Washington State trust lands managed by the Washington State Department of Natural Resources (DNR). These revenues are distributed to management funds and beneficiaries as directed by statute. The Forecast information is organized by source, fund, and fiscal year.

DNR revises its Forecast quarterly to provide updated information for trust beneficiaries and department budgeting purposes. (See the Forecast Calendar at the end of this section for release dates.) We strive to produce the most accurate and objective forecast possible, based on current policy direction and available information. Actual revenues depend on DNR's future policy decisions and changes in market conditions beyond our control.

This Forecast covers fiscal years 2011 through 2015. Fiscal years for Washington State government begin on July 1 and end on June 30. For example, fiscal year 2011 runs from July 1, 2010 through June 30, 2011.

The baseline date (the point that designates the transition from "actuals" to forecast) for this Forecast is April 30, 2011. The forecast beyond that date is based on the most up-to-date market and economic information available at the time of publication, including DNR's timber sales results through May 2011.

Unless otherwise indicated, values are expressed in nominal terms without adjustment for inflation. Therefore, interpreting trends in the Forecast requires attention to inflationary changes in the value of money over time separate from changes attributable to other economic influences.

Each DNR Forecast builds on the previous one, emphasizing ongoing changes. Before preparing each Forecast, international and national macroeconomic conditions and the demand and supply for forest products are re-evaluated. The impact on projected revenues from DNR-managed trust lands is then evaluated, given the current economic conditions and outlook.

DNR Forecasts provide information used in the *Washington Economic and Revenue Forecast* issued by the Washington State Economic and Revenue Forecast Council. The release dates for DNR's Forecasts are determined by the state's Forecast schedule as prescribed by RCW 82.33.020. The table below shows the anticipated schedule for DNR's future *Economic and Revenue Forecast*s.

Economic Forecast Calendar

Forecast Title	Baseline Date	Draft Revenue Data Release Date	Final Data and Publication Date (approximately)
September 2011	End Q4, FY 2011	Sept. 2, 2011	Sept. 30, 2011
November 2011	End Q1,FY 2012	Nov. 4, 2011	Nov. 30, 2011
February 2012	End Q2, FY 2012	Feb. 4, 2012	Feb. 28, 2012
June 2012	End Q3, FY 2012	June 3, 2012	June 30, 2012

Introduction and Forecast Highlights

Market Changes Since the March Forecast. The slow and uncertain recovery from the Great Recession appears to be slowing on several fronts as measures of manufacturing, jobs, and GDP that have improved a bit over the last year have leveled off or turned down again. New home construction remains in the doldrums with millions of housing units in stages of foreclosure and house prices still falling in most markets. Unemployment remains stuck around 9 percent, further discouraging home buying and hampering the recovery.

Lumber and Log Prices. Since the March Forecast, regional log prices and lumber prices have moved in opposite directions. The price of a "typical" DNR log delivered to the mill went up eight months in a row to a high of $502/mbf in April (before falling to $482 in May). The higher log prices have been attributed to the dramatic increase of logs from Pacific Northwest private forestlands being exported to China. West Coast lumber prices decreased, with the Random Lengths' Coast Dry Random and Stud composite lumber price falling to $272/mbf in April. This situation of higher log prices and lower lumber prices is putting the pinch on the state's lumber mills and many have reduced operations at least temporarily.

Timber Sales Prices. Actual DNR timber sales for March through May averaged $348/mbf, virtually the same as the FY 2011 year-to-date average of $345/mbf. The forecast average timber sales price for FY 2011 was decreased slightly from $345/mbf to $343/mbf based on a projected $300/mbf price for June sales.

The delayed recovery of the U.S. housing market will likely act to drag down DNR timber stumpage prices over the next two to three years. On the other hand, the sharp increase in China's log imports, which are expected to continue to dominate West Coast forest product markets for the next several years, will act to indirectly support higher DNR timber sale prices (because while Federal law prohibits direct export of unprocessed logs from state trust lands, exports of logs from private lands are reducing supply to the mills). We are keeping the forecast stumpage prices at $300/mbf for FYs 2012 and 2013 and are increasing them slightly to $310/mbf for FY 2014 and to $320/mbf for FY 2015.

Timber Sales Volume. We have revised the forecast timber sales volume for FY 2011 downward from 657 mmbf to 607 mmbf since there were no bids on 29 percent of the volume DNR offered for sale in April and May. To offset the volume reduction in FY 2011, we have

increased the forecast annual timber sales volume from 657 mmbf to 674 mmbf in FYs 2012, 2013, and 2014, as required to meet DNR's 2005-2014 sustainable harvest level.

Timber Removal Volume and Prices. Based on actual removals of sold timber to date in FY 2011 and on the results of our timber purchasers' survey, we are increasing our forecast of FY 2011 removals from 655 to 679 mmbf. The increased rate of removals of timber previously sold is likely due to the run-up of log prices throughout the fiscal year. As a result of the decreased sales forecast for FY 2011 and the increased removals forecast for FY 2011, the forecast removals for the FY 2012-13 biennium are being reduced by 77 mmbf. Forecast removals for the FY 2014-15 biennium are being increased by 41 mmbf due to the increased level of sales forecast for FYs 2012, 2013, and 2014. Changes in forecast DNR timber removal prices are minor throughout the Forecast period.

Bottom Line for Timber Revenues. Largely as a result of the changes in forecast timber removal volumes, forecast timber revenues are up from the March Forecast by $8.1 million (or four percent) for FY 2011, down by $24.7 million (six percent) for the FY 2012-13 biennium, and up $21.1 million (five percent) for the FY 2014-15 biennium.

Lease and Other Non-Timber Revenues. Forecast aquatic lands revenue is being revised upward by $3.2 million for FY 2011 since DNR held another successful geoduck auction in May with an average price of nearly $10/lb. and because this is the fifth geoduck auction with bonus bids being accounted for during the current fiscal year. An adjustment is made to forecast revenues from upland leasing, as a proposed sale of communication site improvements is moved from FY 2012 to FY 2013 and reduced in estimated value by $2.5 million.

Risks to the Forecast. At this point in time, we judge the downside potential to the overall forecast to be greater than the upside potential because of the downside risks to timber sale volume (and therefore timber removal volume) due to potential environmental and policy issues.

Part 1. Macroeconomic Conditions

This section briefly reviews current and predicted conditions of the U.S. and world economies because these macroeconomic conditions affect the stumpage bid prices for Washington State Department of Natural Resources' (DNR) timber sales.

International supply and demand also affect domestic timber stumpage prices and lumber prices. On the supply side, Canada has a strong influence on the U.S. wood products sectors as it is a major source of lumber which can enter U.S. markets quite readily. On the demand side, China is an increasingly important market for world commodities including wood products.

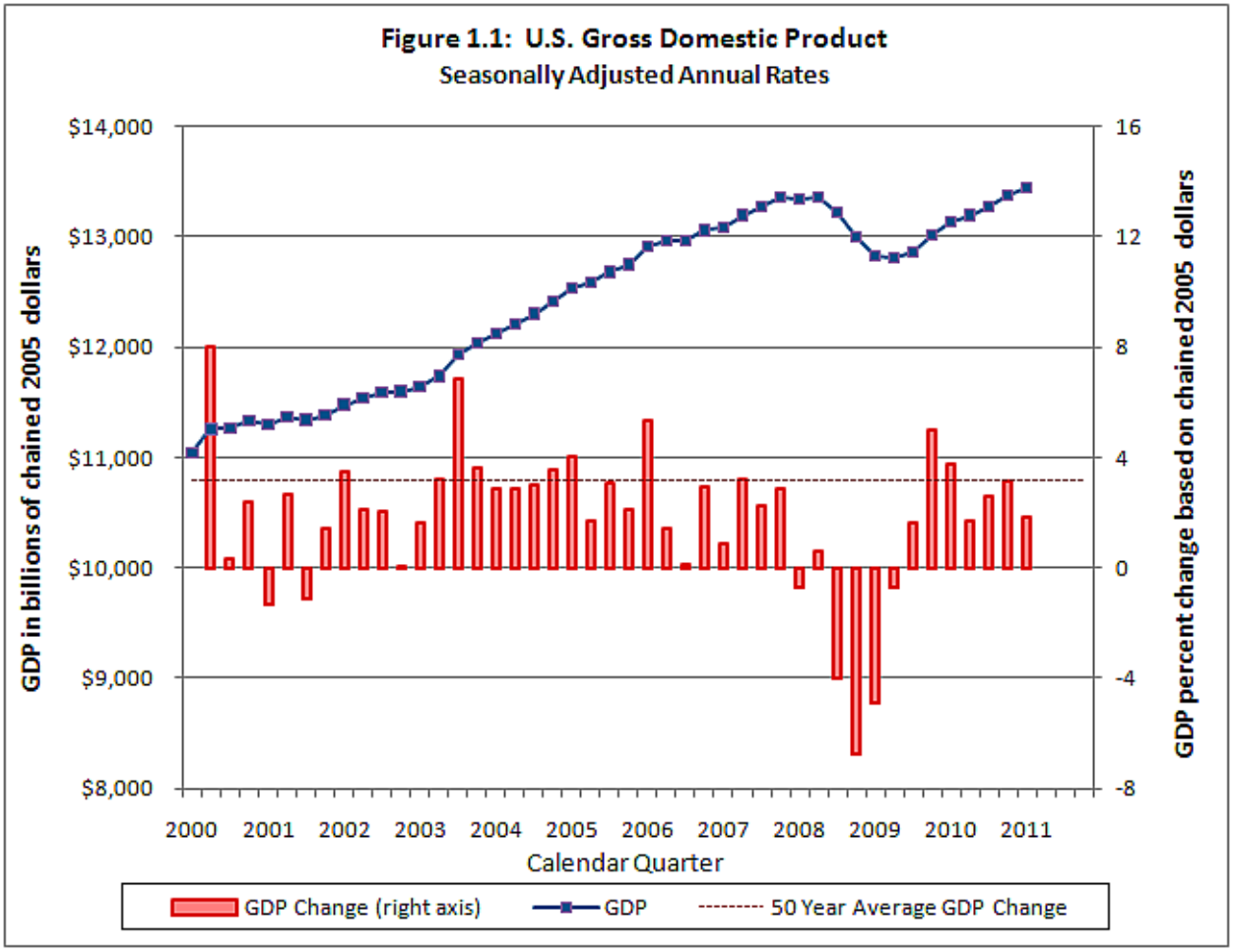
U.S. economy

Gross Domestic Product (GDP). In 4Q 2010, as shown on the blue line in **Figure 1.1**, U.S. real gross domestic product (GDP)--the output of goods and services produced by labor and property located in the United States--finally moved above the previous high reached in the 4Q 2007, although just barely. The shock of the Great Recession is clearly seen on the chart as GDP actually fell during 2008 and the first half of 2009. The growth of GDP has now resumed at a rate similar to that before the recession began, but in absolute terms it is now about $1 trillion less than it would have been if the pre-recession trend had continued.

GDP increased at an annual rate of 1.8 percent in the first quarter of 2011 (see **Figure 1.1**). This was a disappointing result as most economists were predicting stronger growth. In the fourth quarter of 2010, real GDP had increased 3.1 percent.

The increase in real GDP in the first quarter of 2011 primarily reflected positive contributions from personal consumption expenditures (PCE), private inventory investment, exports, and nonresidential fixed investment that were partly offset by negative contributions from federal government spending and state and local government spending. Imports, which are a subtraction in the calculation of GDP, increased.

The deceleration (slowing of the increase) in real GDP in the first quarter primarily reflected a sharp upturn in imports, a deceleration in PCE, a larger decrease in federal government spending, and a deceleration in nonresidential fixed investment that were partly offset by a sharp upturn in private inventory investment.



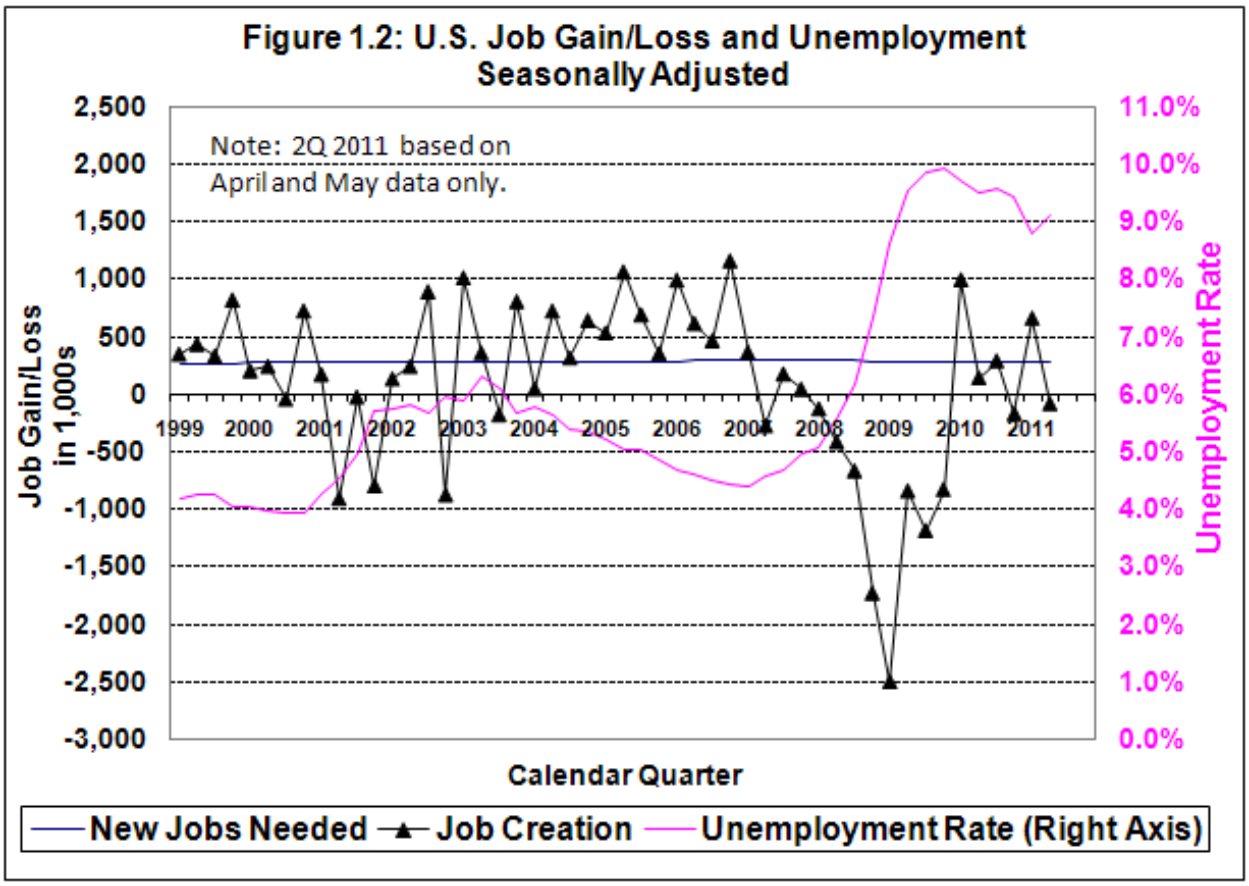
Real federal government consumption expenditures and gross investment decreased 7.9 percent in Q1 2011, compared with a decrease of 0.3 percent in Q4 2010. National defense decreased 11.7 percent, compared with a decrease of 2.2 percent. Nondefense increased 0.1 percent, compared with an increase of 3.7 percent. Real state and local government consumption expenditures and gross investment decreased 3.2 percent, compared with a decrease of 2.6 percent.

Employment.

There are currently 7.25 million fewer payroll jobs than before the recession started in 2007, with 13.5 million Americans currently unemployed. Another 8.4 million are working part time for economic reasons, and about 4 million more workers have left the labor force. Of those unemployed, 6.1 million have been unemployed for six months or more.

Calculated Risk
May 21, 2011

The national unemployment rate has been falling from its high point of 10.1 percent in October 2009, going down to 8.8 percent by March 2011 (see **Figure 1.2**). This reduction in the



unemployment rate by 1.3 percent in 17 months was welcome news. However, in the last two months, the rate has crept back up, to 9.1 percent in May 2011.

An examination of the data indicates that the recovery in employment has been less than the reduction in the unemployment rate from 10.1 percent to 9.1 percent over the 19 month period (October 2009 to May 2011) would indicate. The number of unemployed persons has fallen by 1.7 million during that period but the level of employment has increased by only 1.4 million, meaning that the total labor force, rather than growing by 1.7 million as it normally would over 19 months, actually fell by 330,000. And from March to May, the number of unemployed persons increased by almost 0.4 million while those employed fell by almost 0.1 million as shown on **Figure 1.2**.

The unemployment rate would be higher than it is except for a lack of growth in the U.S. labor force. The labor force usually grows about 0.7 percent each year because of population growth--natural increase plus net inmigration. But the total number of persons in the labor force has been stagnant in the last three and one-half years.

The recession has slowed U.S. population growth, which normally feeds labor force growth, because it has slowed down inmigration. With U.S. jobs drying up, many immigrants (legal and illegal) have chosen to return to their home county where it is much cheaper to live. In each of the past four years, the Census Bureau has had to revise downward its estimated level of inmigration, leading to smaller estimates of the overall population growth.

The recession has also contributed to slowing the growth of the labor force in other ways. First, the severity of the recession has expanded the ranks of the long term unemployed to an extent not seen since the Great Depression. Having very limited job prospects, many have dropped out of the labor force and stopped looking for work. Second, many younger people, finding their current job prospects bleak, have left the work force and decided to stay in or return to school to improve their future job prospects. Another factor is that that some older workers who have lost their jobs have chosen to retire, often early, rather than reenter the labor force although this is offset by other workers who are postponing retirement for economic reasons.

The construction sector, which usually leads the economy out of recession, this time will lag and drag the general economic recovery. The unemployment rate in the construction sector remains above 20 percent and would be worse except that for the large number of workers leaving the sector. An unusual sector slowing employment recovery in this recession is state and local government, which is normally a source of job stability. State and local governments are in severe financial shape and are continuing to cut jobs, programs, services, and pensions.

A high unemployment rate will continue to be an encumbrance on economic recovery. Most economists are predicting that the unemployment rate will remain elevated for years, remaining above 8.0 percent into 2013. This will tend to reduce a rebound in consumer confidence and consumer spending, which will in turn be a drag on economic recovery.

Consumption. Real personal consumption expenditures increased 2.2 percent in the first quarter of 2011, compared with an increase of 4.0 percent in the fourth quarter of 2010 (which had been the best pace since the first quarter of 2006). The fallback is due to the shaky confidence of the shell-shocked American consumer. Continued economic troubles, political uprisings, and disasters around the world have added to new uncertainties about the U.S. economic recovery and kept the U.S. consumer restrained. Many have cut back by necessity due to job losses and wage losses in the family. People with jobs have also become more conservative with their spending, paying down their debt and increasing their savings

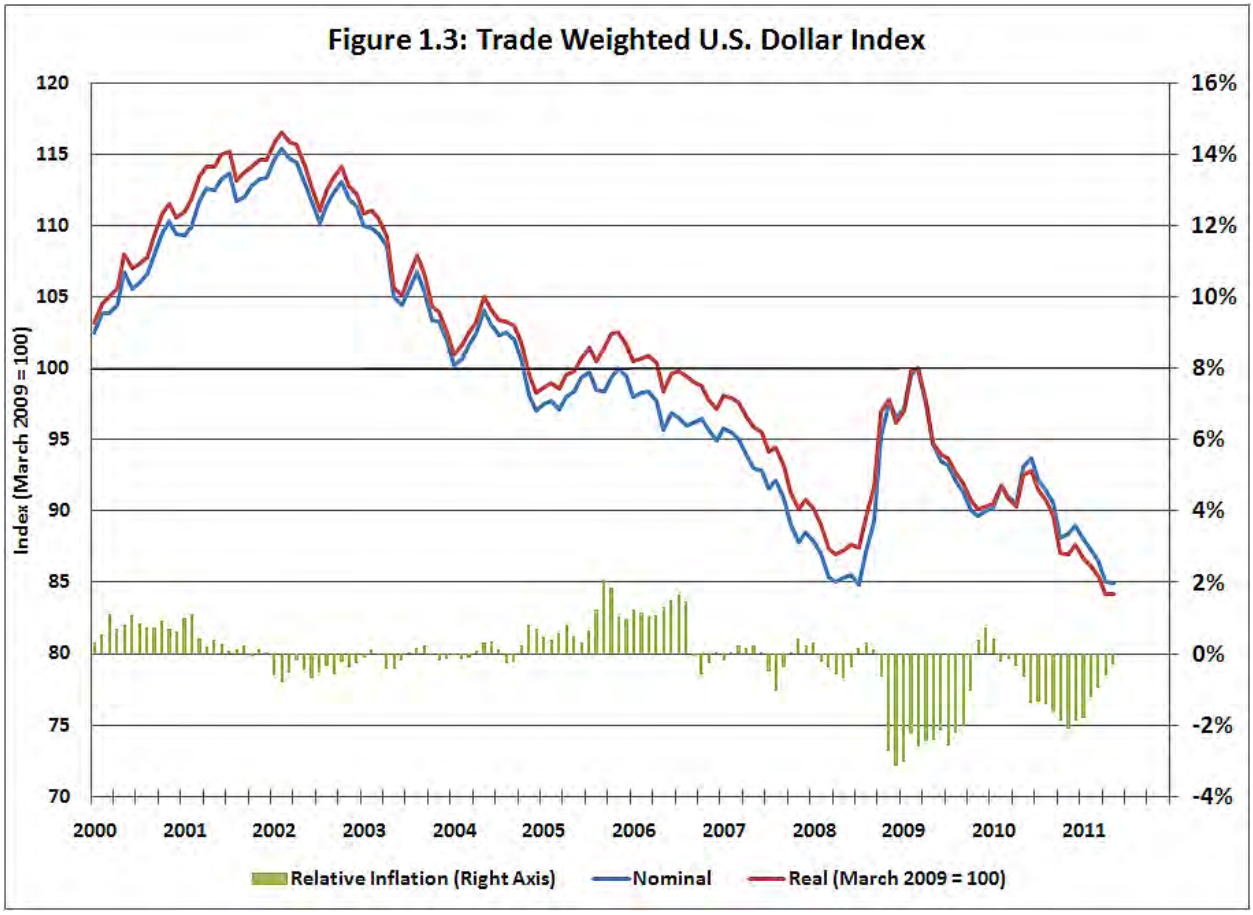
We continue to believe that the slow growth in employment will limit consumption growth. And now a new threat to consumer spending and the economy in general is the sharp rise in commodity prices, especially crude oil.

Interest Rates. Little has changed on the interest rate front, as U.S. interest rates are at or near record lows. The Fed funds rate has remained in the 0.0-0.25 percent range since December 2008. Ten-year treasury bonds are at 2.99 percent, down from 3.46 in January. Conventional 30-year fixed rate mortgages were at 4.93 percent in April, below 5.00 percent for the tenth consecutive month and down from 5.10 percent in April 2010. Four-year new car loans are down to 3.99 percent, compared with 6.34 percent just a year ago.

Inflation. As shown in red on **Figure 2.1** (on page 18), the U.S. inflation rate (percent change in CPI) that had been running at 1.1 percent on a year-over-year basis for the second and third quarters of 2010, moved up to 1.5 percent in 4Q 2010, is now up to 2.7 percent in the first quarter of 2011. The recent increases in the CPI are almost entirely attributable to higher prices for petroleum products and food. Growing demand in China and other developing countries are

exerting upward pressure on energy, food and other commodity prices. Oil prices have been up around $100-$110 a barrel in the first part of 2011, partly associated with the ongoing conflicts in North Africa and the Middle East.

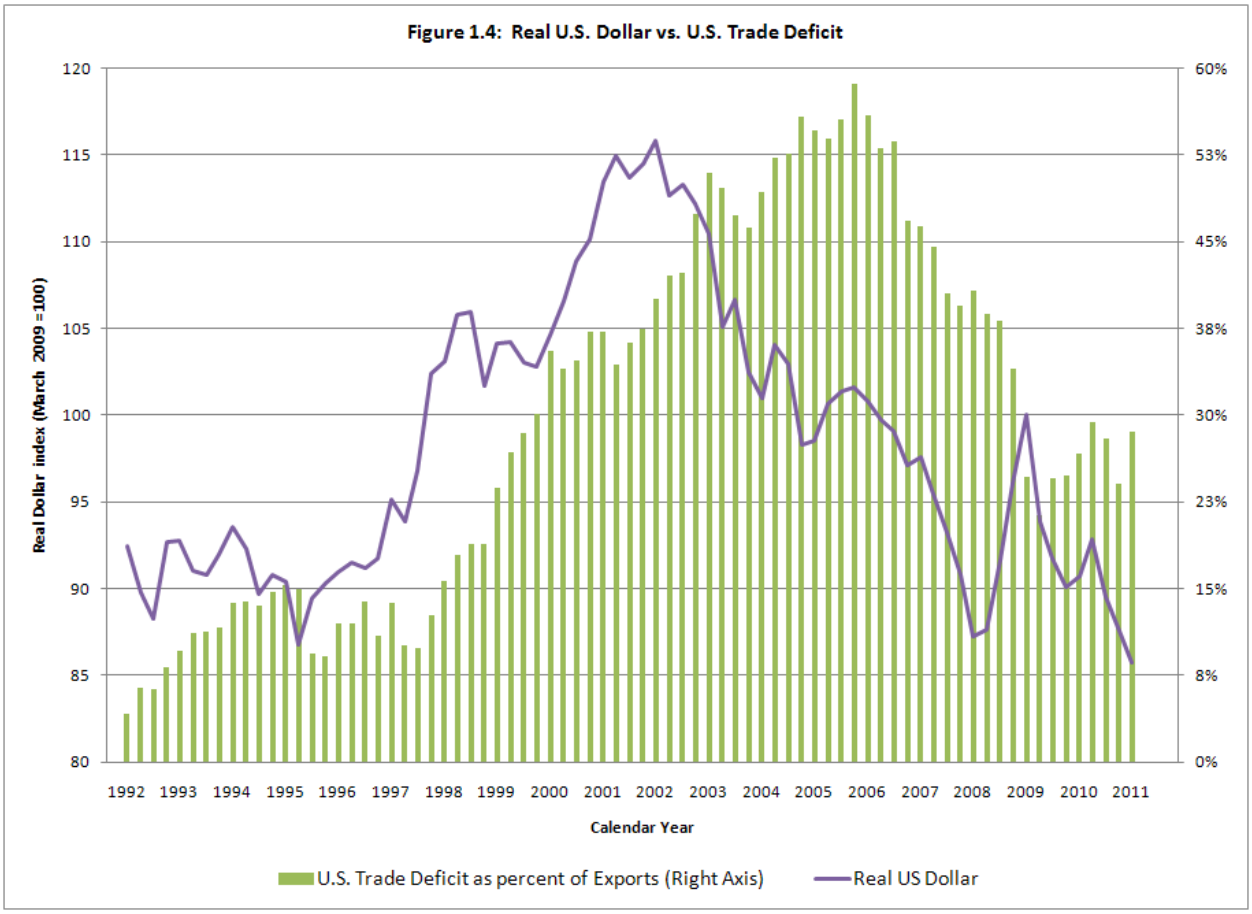
The U.S. Dollar and Trade. **Figure 1.3** shows the trade-weighted U.S. dollar index for the last decade. In real terms it is off 28 percent from its high in 2001 and off seven percent since the Fed announced QE2 at the end of August.



We expect the dollar to fall over the forecast period as the economies of our trading partners in the developing world grow faster than the U.S. economy, but we don't expect a precipitous decline in part because the U.S. dollar is already very low in real terms.

Figure 1.4 shows the relationship between the real U.S. dollar and the U.S. trade deficit as a percentage of U.S. exports. The trade deficit generally follows the dollar but with a considerable lag. For the last two years, the dollar has generally moved down while the trade deficit has stabilized.

In the first quarter of 2011, U.S. exports climbed to a record high level of $2.02 trillion (before adjusting for inflation). But imports increased even more, to $2.59 trillion, so the trade deficit jumped up to 28 percent of exports.



There are two major contributors to the U.S. trade deficit. One is our net trade with China which makes up 41 percent of our trade deficit. The second is net imports of crude oil which account for 55 percent of the U.S. trade deficit.

Debt Limit Negotiations. Maneuverings in Congress over the approaching U.S. government debt limit may make good political theater but they are increasing chances of doing real economic damage as the August deadline approaches. Many economists and others fear that lack of timely and decisive action to raise the debt limit may throw the fragile economy back into recession.

Even a short suspension of payments on principal or interest on the Treasury's debt obligations could cause severe disruptions in financial markets and the payments system, induce ratings downgrades of U.S. government debt, create fundamental doubts about the creditworthiness of the United States, and damage the special role of the dollar and Treasury securities in global markets in the longer term.

Ben S. Bernanke, Federal Reserve Chairman
June 14, 2011

World economy

World events have increased risks to the world economy and they are of interest and concern to the U.S. economy as the world becomes more interconnected.

Europe: Over the last year and a half, it seems that Greece's economy and its sovereign debt crisis have been in the daily news in the U.S. One day, the stock market rises on some encouraging news, often out of Germany or Brussels, about efforts to forestall a Greek government default. The next day, the market falls on news of some setback on solving the Greek financial problem. The Greek government is responding to demands for austerity from the European Union and the IMF, but the people are angry and scared about the planned cutbacks and changes. And although it may be in the worst shape, Greece is only one of the so-called European "PIIGS" countries (Portugal, Ireland, Italy, Greece, and Spain) with public debt problems and high interest rates.

Arab Spring: The political unrest in North African and Middle Eastern continues to exert pressure on oil prices. Prior to the revolution in Tunisia, oil prices were at about $90/barrel. The disruption of crude oil supplies from Libya and speculation about other disruptions led to the crude oil price rising to $115 a barrel at the end of April. A weak U.S. dollar and strong world growth is also adding to the pressure on oil prices. Political instability in the region may lead to other shocks on the regional and world economies. Unrest in Syria and the Palestinian region threatens Israel's security and is raising tensions between Israel and Iran.

Japan: The impacts of the earthquake, tsunami, and nuclear disasters in Japan are ongoing. Asian and U.S. factories are facing problems getting parts from Japan. For example, some U.S. auto plants have had to slow production because they could not get parts that only came from Japanese factories. Disruption to Japanese electricity supplies, down some 20 percent, has already resulted in rolling blackouts in Tokyo and other cities. Since electrical power demand increases in the summer, more rationing will likely be needed (Japanese office workers are being encouraged to wear shorts to the office this summer) and this will act to limit economic growth. Over the longer run, spending on new infrastructure will offset some of the disasters' hit on the Japanese economy. Rebuilding in the housing sector specifically should increase the demand for imports of wood products from Washington, Oregon, and British Columbia.

China: Americans who think that the USA is now #2 are misinformed, but there is no question that China has become a world economic powerhouse and will continue to be. China's growth is fueling demands for resources and China is actively scouring the world for commodities while remaining price-conscious. China's economy continues to grow at impressive rates, although it is being confronted with higher commodity prices, higher inflation rates, and the prospect of a housing bubble. China continues to restrict the strength of the yuan, keeping it artificially low versus the dollar, but is allowing it to fluctuate more than it has in the past. China is looking for ways to slow its economy and yet provide benefits to the people. It recently announced plans to build 10 million affordable homes for low income workers this year and 36 million units by 2015. At the same time, Beijing is cooling the demand for private housing by raising interest rates and reducing available credit. China's economy will have a large impact on the world

economy whether it continues its strong growth or whether it should have a major setback, which some are predicting but which we deem to be unlikely over the next several years.

Canada: Canada did not experience the same severity of recession as the U.S. did as evidenced by its healthier economic measures, such as unemployment rate and housing starts, but it could not entirely escape because of its strong economic linkages with its huge neighbor to the south. The Canadian economy is in sound shape going forward, its lumber exports to China are booming, and the Canadian dollar is at a cyclical high exchange rate of $1.04 U.S.

Part 2. Log and Lumber Industry Factors

This chapter focuses on specific factors that affect timber stumpage prices and overall timber sales revenues received by the Washington State Department of Natural Resources (DNR). Timber stumpage prices reflect demand for lumber and other wood products, timber supply, and regional and local lumber mill capacity. The demand for lumber and wood products is directly related to the demand for U.S. housing and other end-use markets.

U.S. housing market

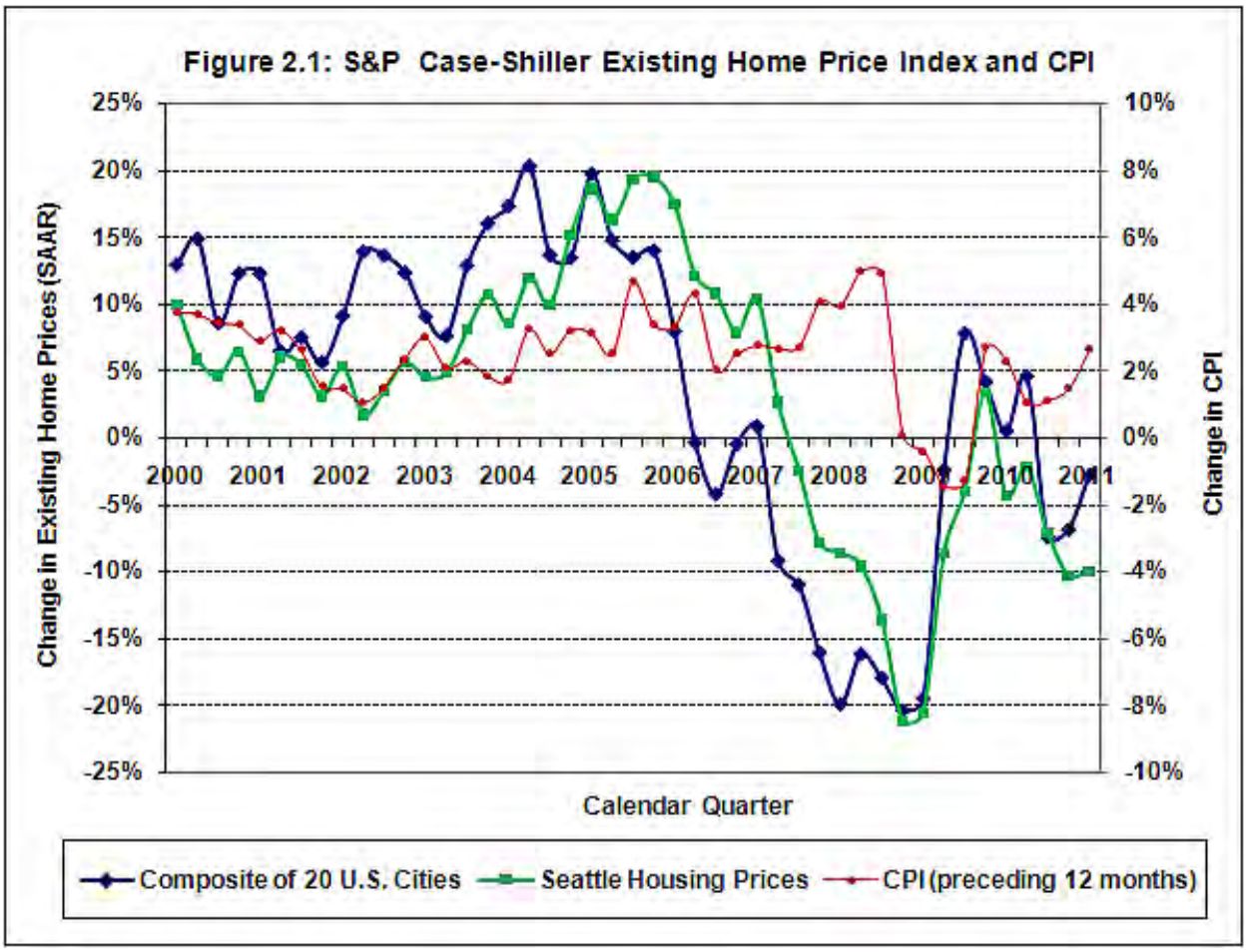
Housing Prices.

. . . house prices are a critical element in understanding the state of the housing market. Nationally, house prices have been falling for six years, and most industry analysts expect further declines before prices bottom out. Households are equally pessimistic about the trajectory of house prices.

Janet L. Yellen, Vice Chair, Federal Reserve Bank
June 9, 2011

The double dip is on in housing prices. After rising for 13 months straight from July 2009 through July 2010, U.S. home prices have fallen for eight straight months ending March. **Figure 2.1** shows the Case-Shiller existing home price index as quarterly data rather than monthly, but it clearly shows the double dip as the blue line (showing change in prices) is back in negative territory. Some consolation is that the rate of decline has been slowing over the last five months and it was down to 2.8 percent in March. Nevertheless, the March home price index was down to its lowest point in the recession, to a level last seen in mid-2003. Twelve of the 20 U.S. metropolitan areas in the Case-Shiller index hit cyclical low home prices in March (Atlanta, Charlotte, Chicago, Cleveland, Detroit, Las Vegas, Miami, Minneapolis, New York, Phoenix, Portland, and Tampa). Washington D.C. was the only one of the 20 metro areas with higher home prices than a year ago.

The Seattle home price index fell to its lowest level in the recession, to a level not seen since the fall of 2001. Seattle housing prices are now down 29 percent from their peak in May 2007. As shown in **Figure 2.1**, Seattle prices have been falling more rapidly than the 20-city average for the last two quarters.

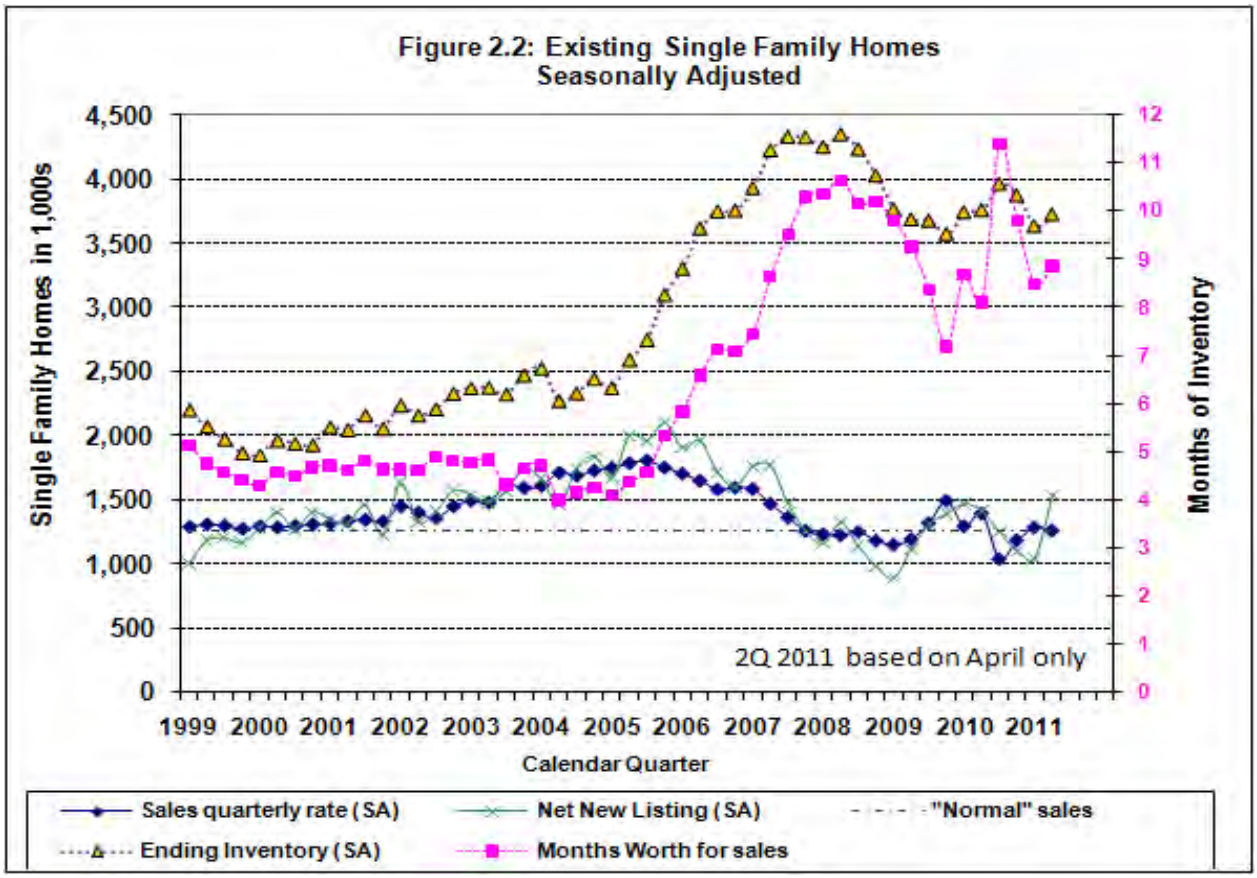


Most housing experts think that housing prices have not yet reached the bottom and will lose an additional 10 percent or so over the next year.

Existing Home Sales. Existing home sales have leveled off again in 2011 after rising from the worst quarter on record in 3Q 2010 (see **Figure 2.2**). In April, existing homes sold at the seasonally adjusted quarterly rate of 1.26 million, about right on the "normal" pre-bubble rate of 1.25 million.

The problem is that there are so many more existing homes in the inventory for sale than in more normal times, as shown in **Figure 2.2**. In April, there were 3.7 million existing homes for sale, falling in the range of 3.6-4.0 million which has persisted since the beginning of 2009. That is down from the range of 4.2-4.3 million existing homes which were for sale for six quarters from 2Q 2007 through 3Q 2008. But it is still way above the more normal range of 1.8-2.5 million existing homes in the inventory for sale.

Because the number of homes in the inventory is so high, so is the "months' worth of inventory" at current sales levels. The months' worth of inventory measure rose to 8.9 in April after being 8.5 months in 1Q 2011. As shown on Figure 2.2, the months worth of inventory of existing homes for sale has been highly volatile in the last two years as federal incentive programs for home buyers have switched on and off.

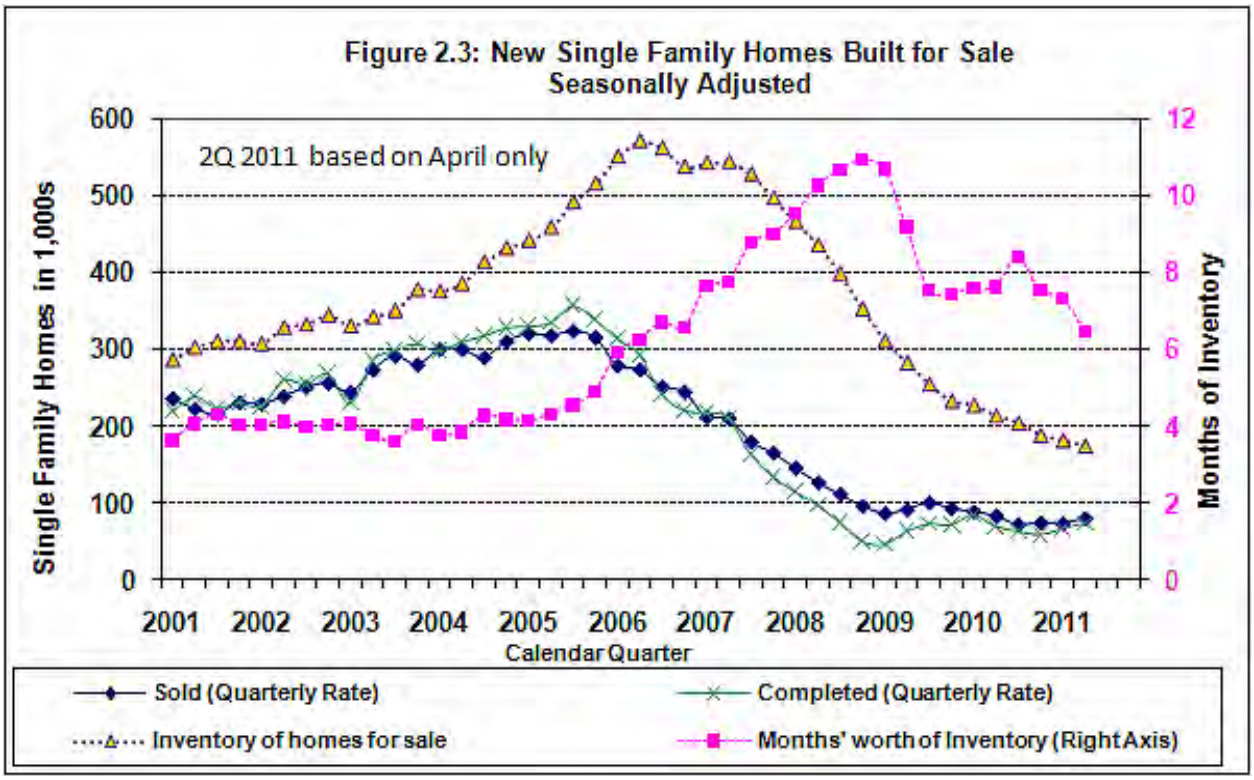


This excess supply of existing homes is the most important factor weighing on the housing market at this time. This is compounded by the huge "shadow inventory" of foreclosed properties. Lending institutions are placing more of these properties on the market, which will further increase the supply and place downward pressure on sales prices.

New Home Sales. New home sales have been bouncing along the bottom for the last year from May 2010 through April 2011, averaging 298,000 per year (74,500 quarterly rate), only 46 percent of the "normal" annual rate of 650,000 per year (165,000 quarterly rate).

Sales of new homes in the U.S. fell off much more dramatically than sales of existing homes from the peak in 2005 to a low in 2009 (compare the rates of sales for existing homes and new homes in **Figures 2.2 and 2.3**). Sales of both existing and new homes turned up in 2009, only to fall again in 2010 and 2011. New home sales tied an all-time monthly low in February 2011 of just 278,000 SAAR.

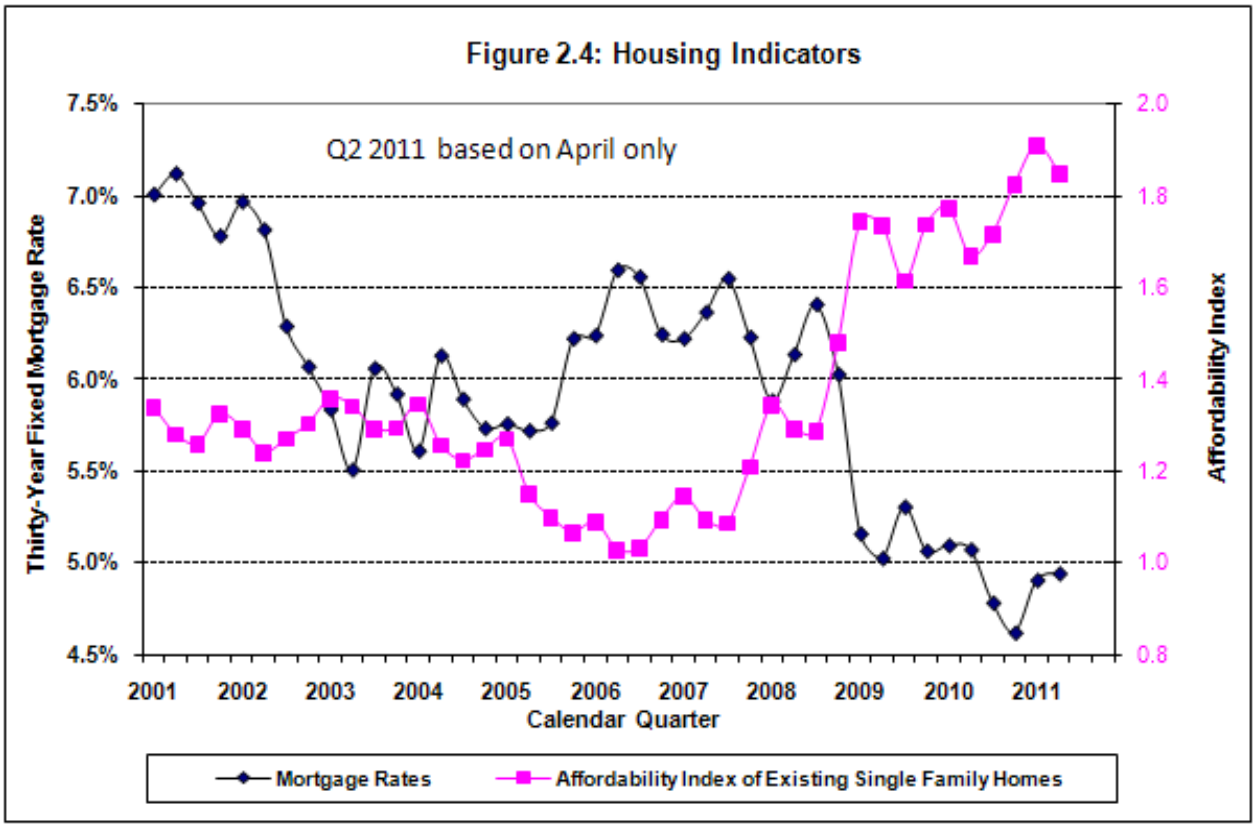
The dramatic drop in new house construction has also served to bring down the inventory of newly built homes to the lowest level in 10 years. This is a good and necessary step in the healing of the housing market. At a high in July 2006, there were 572,000 new single family homes available to purchase in the U.S. At the end of April 2011, there were only 174,000 available (see **Figure 2.3**). The months' worth of inventory of new homes for sale fell to 6.5 months in April, another good development. New home completions and sales won't (and



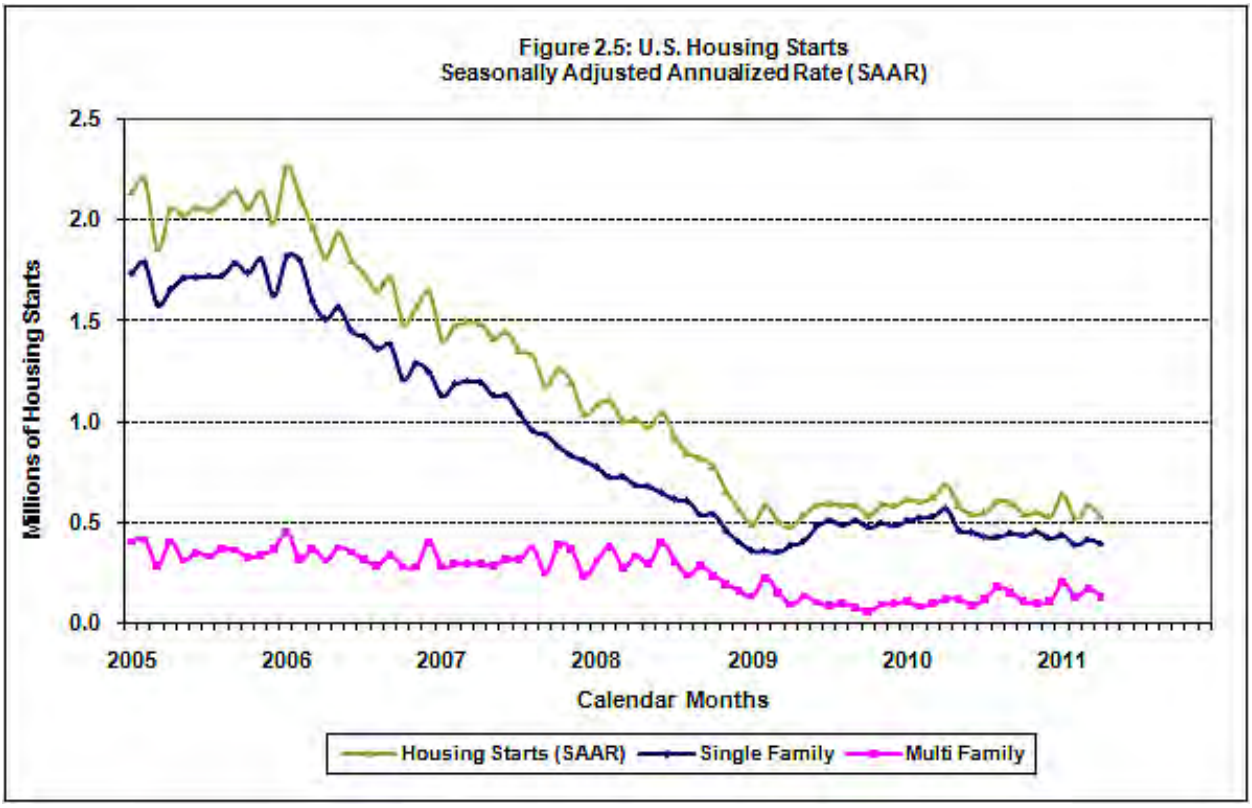
shouldn't) increase significantly until the excess supply of existing homes, including those in the foreclosure pipeline, is absorbed.

Affordability. U.S. mortgage loan rates remain at very low levels (see **Figure 2.4**). The 30-year fixed mortgage rate was below 5.0% for ten consecutive months through April and has been hovering just below 5.0% since the beginning of 2011. The family income required to qualify for a mortgage on the $163,200 median-priced existing single family home in the United States at April's rate of 4.93 percent is only $33,360 per year. This compares with an average qualifying income of $45,984 in 2008 and $52,992 in 2007. Median family income was $61,693 in April, compared to an average of $63,366 in 2008 and $61,173 in 2007. At least for those families whose wage earners still have jobs, housing prices and mortgage rates have fallen more rapidly than family income resulting in very affordable housing, but this is having little impact on housing demand.

Housing Starts. Total housing starts were at 523,000 on an annual basis (SAAR) in April, continuing to bump along the bottom since the beginning of 2009 (see **Figure 2.5**). The April rate is not even ten percent higher than the all time record low in April 2009 of 478,000 (the lowest level since the Census Bureau began tracking housing starts in 1959). Single-family starts continue to decline from their already low level (see **Figure 2.5**) and were down to 394,000 in April. Multifamily housing units starts also remain in a historic low range, but appear to be rising slowly out of the 2009-2010 trough. One of the early signs of a recovery in housing will be an increase in multifamily starts, so the trend in multifamily starts bears watching.



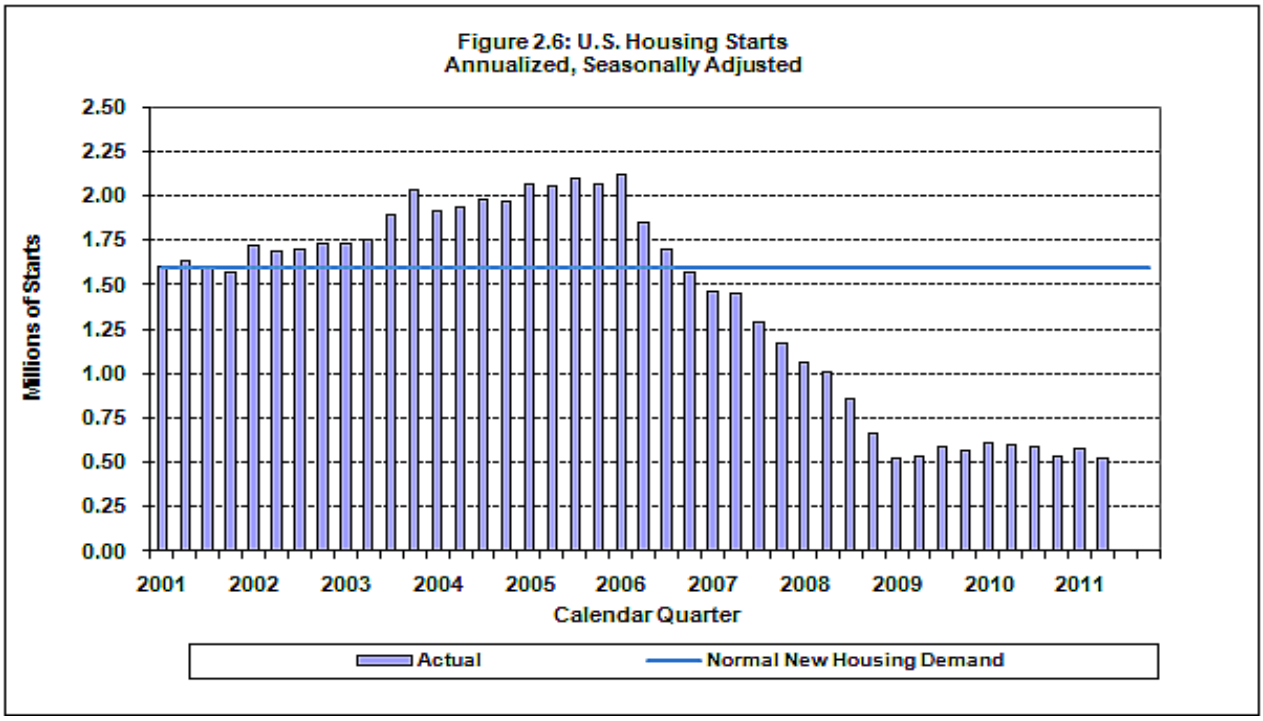
The **Affordability Index** is the ratio of median family income and the income required to qualify for the median-priced existing single-family home. In April 2011, the affordability index was $61,696/$33,360 or 1.849.



On one hand, the low level of new housing starts is good news because a housing recovery will not occur as long as there is an oversupply of housing units. On the other hand, the depressed home construction sector is a drag on the larger economic recovery.

Behind the slowdown in demand for housing is the slowdown in household formation, which not only is a result of the recession but then feeds back to prolong the recession. Household formation typically stalls during a recession as people move in with family or friends, or share rentals. Young adults are less likely to leave their parents' home to form new households if they are unemployed. Recent surveys suggest that young U.S. adults are also delaying marriage and childbearing for economic reasons. The United States actually lost 1.2 million households from 2005 to 2009. The U.S. formed fewer than 400,000 new households in 2009 and 2010. In a typical year, about 1.3 million new households are formed.

Figure 2.6 shows the annual rate of new housing starts in the United States since 2001 by quarter. It clearly shows that the United States overproduced new housing units during the housing bubble (i.e., housing starts exceeded the normal 1.6 million annual rate of new housing demand). The rate then fell off dramatically from 2006 to 2009 and has remained in a flat trough since the beginning of 2009.



We are forecasting that housing starts will be flat for at least another year. Housing starts will remain low as long as the U.S. household formation rate low. The sharp drop in household formation (along with the huge number of foreclosed properties coming back on the market) explains why, despite the plunge in housing starts in recent years, the housing glut remains stubbornly high. In addition, we expect that both immigration and natural demographic growth will slow and U.S. population growth will slow to 1 percent per year after the Great Recession as compared with 1.5 percent before.

Lumber, log, and stumpage prices

Two distinct markets have developed in the first half of this year: an export market that has some vigor, and a domestic market that continues to struggle with both prices and production consistency. . . The strength of the export market had both positive and negative effects on the domestic market, which was weak. The strength of log exports, for instance, drove domestic log prices higher, creating intense pressure for all log users. . . Suppliers, of course, sought the higher value market and sold to exporters whenever possible.

RISI

June 19, 2011

Lumber Production. In 2004, when lumber prices were at a high peak, mills in the U.S. West produced 18.8 billion board feet (bbf) of lumber while running at a healthy 93 percent of their capacity of 20.2 bbf. By 2009, lumber production in the West had fallen to 10.2 bbf, using only 53 percent of the 19.1 bbf capacity. In 2010, lumber production in the West was up to 11.3 bbf, an 11 percent increase, and capacity utilization rose to 59 percent.

Log Exports. In 2010, the log export volume from Oregon and Washington increased to almost 804 mmbf, nearly 82 percent higher than 2009, and the highest volume since 2000. The bulk of that increase went to China which imported over 351 million board feet, but volumes to Japan and South Korea increased as well. Japan was still the largest importer of logs from the United States, totaling over 392 million board feet. The volume of log exports in 2010 from British Columbia was over 591 million board feet—a 151 percent increase.

Whether China's soaring import demand for wood products will continue to increase will depend primarily on continued growth of China's economy and building boom as most of the softwood lumber they import is used in construction. From where and in what form those imports will take is another question. China has been reducing its log imports from Russia because of higher export taxes and unreliability of supply. It has been increasing its log imports from New Zealand, but New Zealand is reaching limitations on supply. This leaves Canada and the United States as the other primary exporters that are likely sources of forest products to China. It seems likely that increased exports from Canada will take the form of lumber while the growth in exports from the United States is expected to continue to be in logs.

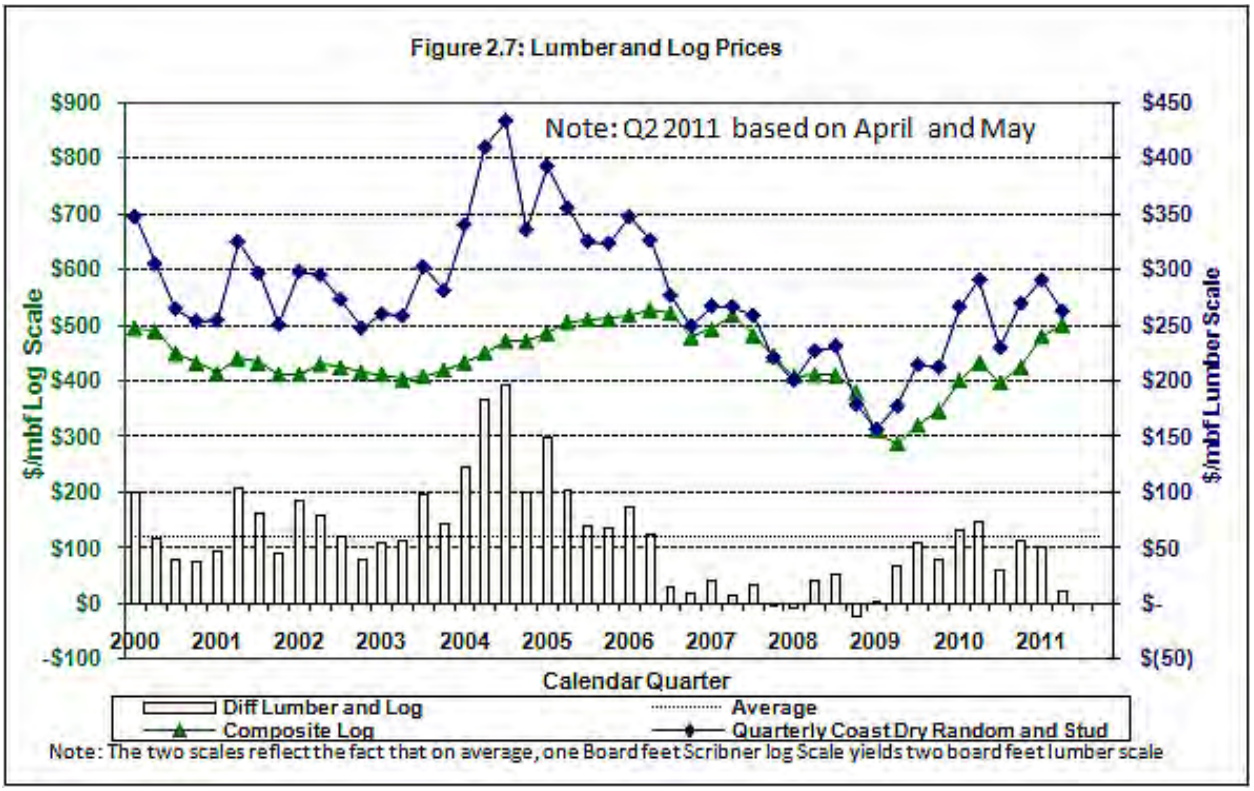
China is very price conscious in its acquisition of raw materials and commodities around the world. Log exports to China from the Pacific Northwest picked up as log prices remained relatively low priced in 2010. If Coastal log prices go too high, China will look to other regions of the world for supply or to substitute materials (i.e., lumber from Canada).

The recent earthquake and subsequent tsunami in Japan should result in an increased demand for North American wood products. Wood will be a major input into the rebuilding effort.

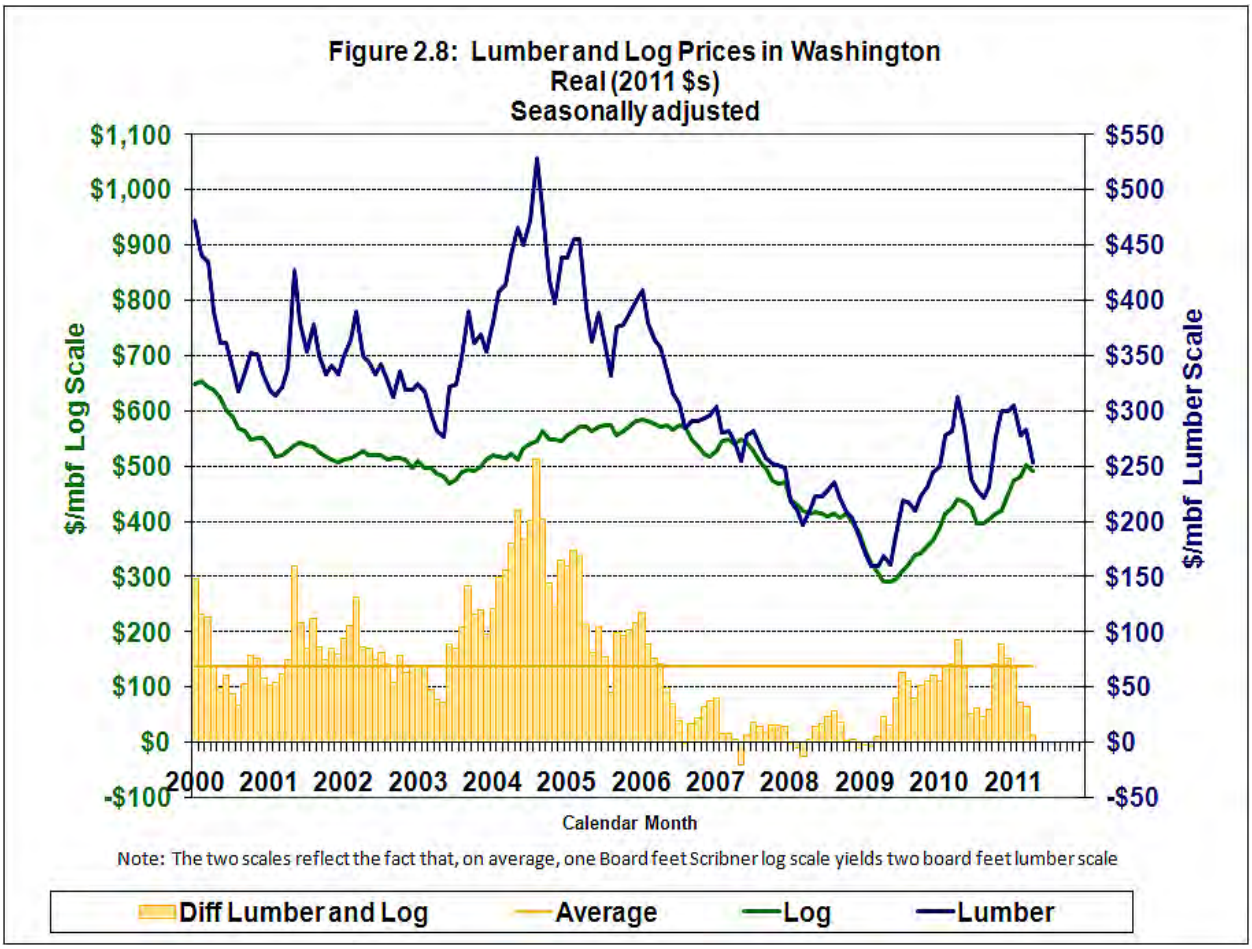
Like China, Japan has no wood reserves of its own. To service the increased demand, sawmills in Japan will accelerate production, and this will require increased imports of softwood logs. The United States accounted for over 40 percent of Japan's softwood log imports in 2010 and Canada 30 percent, so it is likely that Washington and Oregon will see the greatest increase in log export demand from Japan. Japan has a long history of importing logs from the Pacific Northwest and is still the largest importer of wood products from the area.

RISI forecasts that offshore lumber exports to double between now and the end of the forecast (FY 15).

Lumber and Log Prices. **Figures 2.7** and **2.8** show lumber and log prices in Washington state and their relationship since 2000. **Figure 2.7** shows quarterly nominal prices and **Figure 2.8** shows monthly real seasonally adjusted prices. What's obvious is that both lumber and log prices have significantly improved from their lows in 2009. The lumber price (real SA) bottomed at $151/mbf in February and March of 2009 and improved to $313/mbf in April 2010 before falling and rising again to $304 in January 2011. But the lumber price has fallen to $253/mbf in April. Composite log prices have shown less volatility, as they usually do, rising from a low of $291/mbf (real SA) in April and May of 2009 to a high of $501/mbf in April 2011. The May price for logs has fallen slightly to $492/mbf.



As shown in **Figures 2.7** and **2.8,** the recent drop in lumber prices has brought the price curves together, placing mills in a pinch as their margins have shrunk. Because log prices are so high relative to lumber prices, mills have been announcing temporary and/or partial shutdowns.



Log and DNR Stumpage Prices. **Figure 2.9** shows prices for logs, predicted DNR stumpage, and actual DNR stumpage on an annual basis since CY 2000. The "composite log price" represents prices for logs delivered to mills weighted by the average geographic location, species, and grade composition of timber sold by DNR. Average annual log and stumpage prices both improved in 2010 from the low in 2009 and they continue up in 2011, based on data through May.

Figure 2.10 shows the same relationship but on a monthly basis with seasonal adjustment and in real 2011 dollars. The bars at the bottom of the graph show by how much actual DNR stumpage prices are above those expected given log prices. **Figure 2.10** shows the sharp upturn in log and predicted DNR stumpage prices since July 2010.

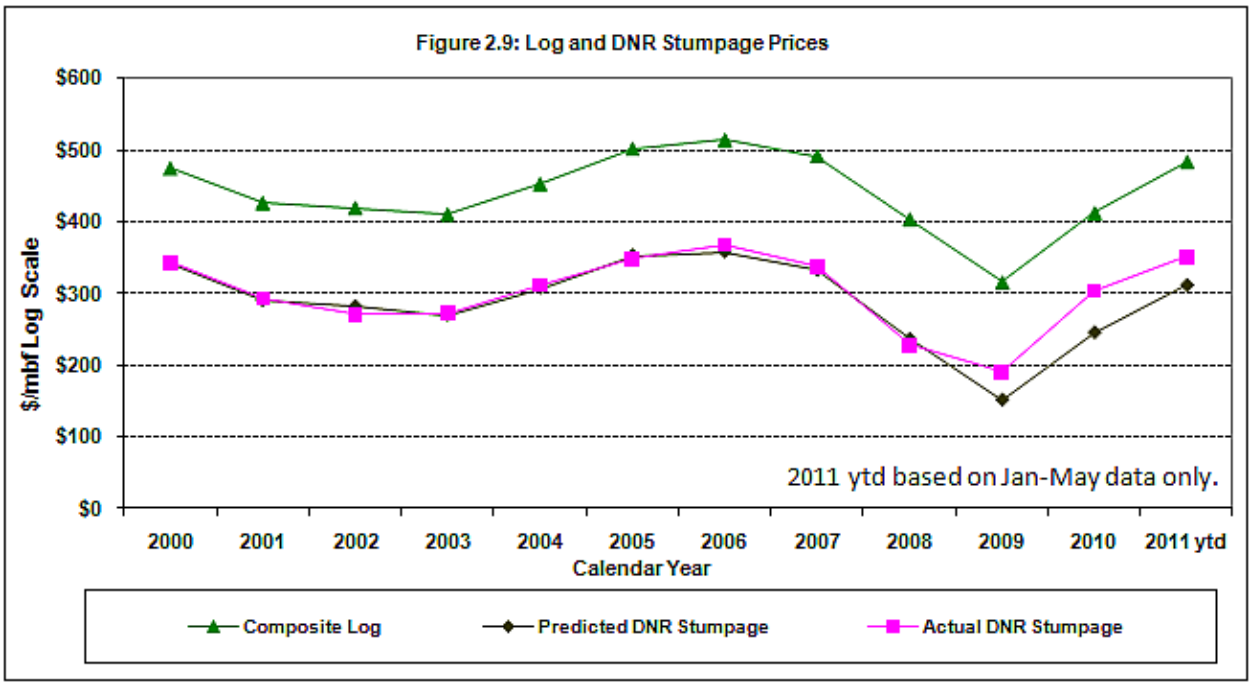


Figure 2.9: Log and DNR Stumpage Prices
$600
$500
$400
$300
$200
$100
$0
$/mbf Log Scale
2011 ytd based on Jan-May data only.
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011 ytd
Calendar Year
Composite Log
Predicted DNR Stumpage
Actual DNR Stumpage

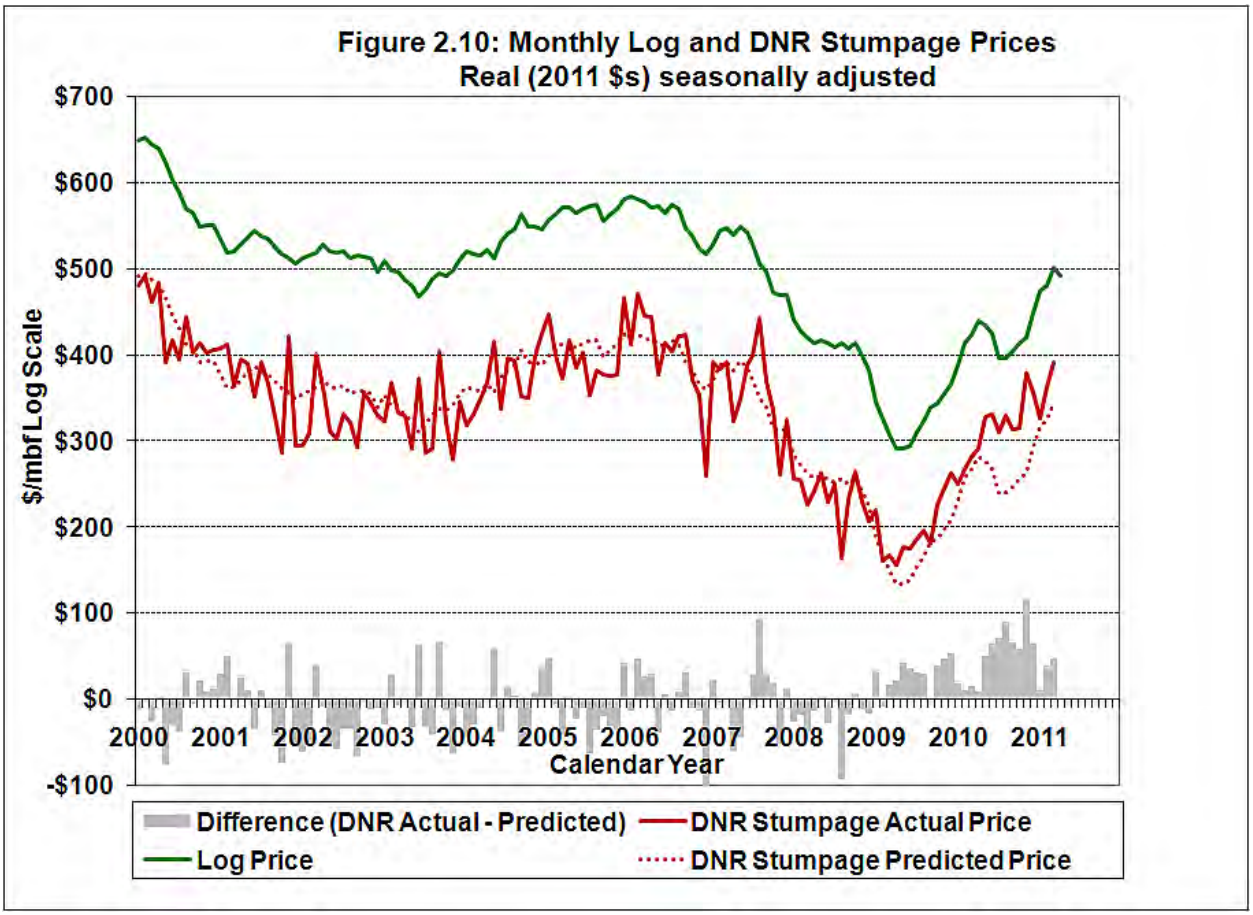


Figure 2.10: Monthly Log and DNR Stumpage Prices
Real (2011 $s) seasonally adjusted
$700
$600
$500
$400
$300
$200
$100
$0
-$100
$/mbf Log Scale
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Calendar Year
Difference (DNR Actual - Predicted)
DNR Stumpage Actual Price
Log Price
DNR Stumpage Predicted Price

Part 3. DNR's Revenue Forecast

This Revenue Forecast includes Department revenues from timber sales on trust lands, leases on trust uplands, and leases on aquatic lands. It also forecasts revenues to individual funds. Some caveats about the uncertainty of forecasting Department revenues are summarized at the end of this section.

Timber revenues

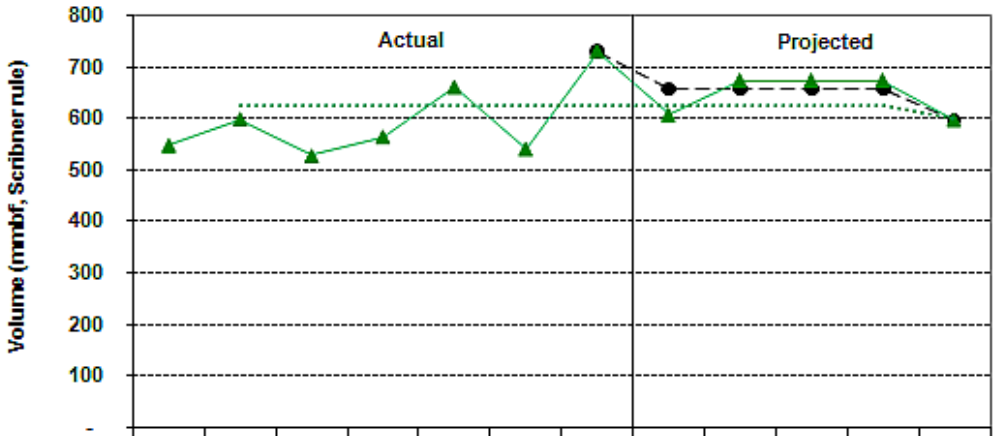
The Washington State Department of Natural Resources (DNR) sells timber through contracts. The Department determines the total volume to be offered for sale each month and the minimum bid for each timber sale. The sale is awarded to the highest bidder and the average sales price ($/mbf) is set at the time of auction. DNR collects a 10 percent initial deposit at the time of sale and holds it until the sale is completed. Revenues are collected at the time of harvest (removal). The initial deposit is credited as the last 10 percent is harvested.

Contracts for DNR timber sales sold over the last two fiscal years have varied in duration from two months to three and one-half years, with an average (weighted by volume) of about 18.8 months. The purchaser determines the actual timing of harvest within the terms of the contract. As a result, timber revenues to beneficiaries and DNR management funds lag current market conditions. Currently, that lag is about a year.

Timber that is sold but not yet harvested is referred to as "volume under contract" or "inventory". Timber volume is added to the inventory when it is sold and placed under contract and it is removed from the inventory as the timber is harvested.

Timber Sales Volume. As directed by law, the Board of Natural Resources sets the level of sustainable harvest for western Washington forests managed by DNR on a decadal basis. The current sustainable harvest decade is from FY 2005 through FY 2014. For Western Washington, the current sustainable harvest is 550 mmbf per year for the current decade and 537 mmbf for the next decade beginning in FY 2015. We expect the harvest for eastern Washington will average about 75 mmbf per year over the current decade, resulting in an average statewide harvest of 625 mmbf per year for the current decade (see **Figure 3.1**). For four of the first five years of the decade, DNR timber sales fell short of the sustainable level by a cumulative amount of 233 mmbf. In FY 2010, the sixth year of the sustainable harvest decade, the Department sold 730 mmbf, or 105 mmbf more than the average annual sustainable harvest level, leaving a remaining

Figure 3.1: Forecast Timber Sales Volume



Fiscal year ending June 30	04	05	06	07	08	09	10	11	12	13	14	15
Previous Forecast							730	657	657	657	657	597
Current Forecast	548	599	528	565	660	541	730	607	674	674	674	597
Change							0	(50)	17	17	17	0
Percent Change							0%	-8%	3%	3%	3%	0%
Sustainable harvest		625	625	625	625	625	625	625	625	625	625	597

shortfall of 128 mmbf. Our previous Forecast documented the Department's plans to spread this amount evenly over the remaining four years of the decade, or 32 mmbf per year, bringing planned sales for the remainder of the decade up to 657 mmbf (625 mmbf plus 32 mmbf) per year (See **Figure 3.1)**.

It has now become obvious that DNR will not meet the 657 mmbf target for timber sales volume in the current fiscal year, FY 2011, because of the number of offered sales with no bidders in April and May. In April, 36 percent of the volume offered, or 24 mmbf out of 66 mmbf, did not sell and in May, 24 percent, or 22 mmbf out of 92 mmbf, did not sell. Accordingly, we are revising the forecast timber sales volume for FY 2011 downward to 607 mmbf, or 50 mmbf less than in the last forecast. The downward adjustment reflects a possibility that all the timber sales planned for June may not have bidders. To offset the 50 mmbf volume reduction in FY 2011, we are required to raise the forecast volume for the last three years of the 2005-2014 decade by 17 mmbf each year (FYs 2012, 2013, and 2014) in order to meet the sustainable harvest level (see **Figure 3.1**).

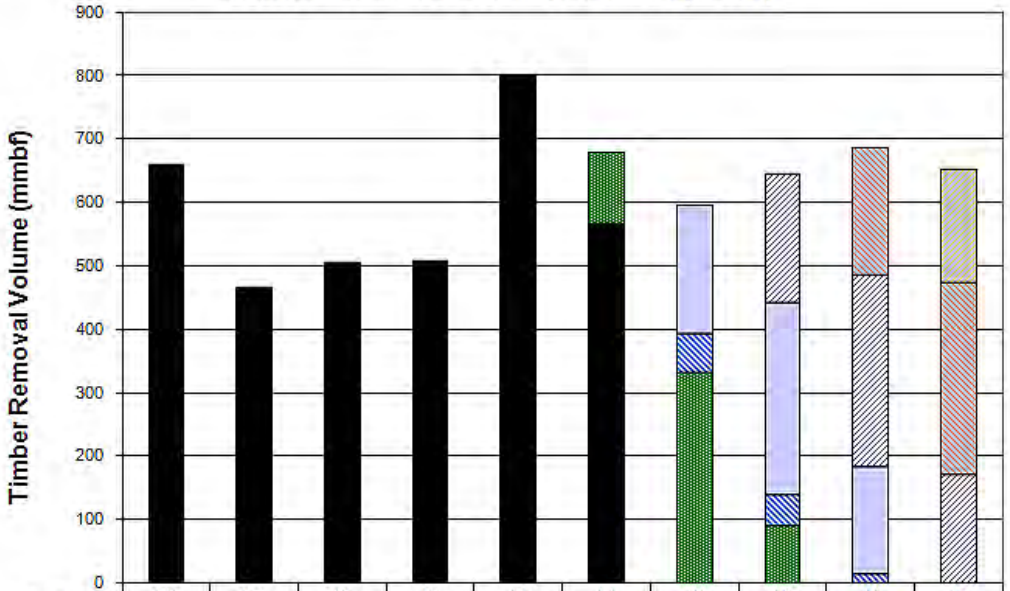
It may be difficult for DNR to make its target timber sales volume for FYs 2012-2014 because of potential environmental and policy issues, especially those regarding marbeled murrelet habitat.

The last year of the forecast (FY 2015) is the first year of the next sustainable harvest decade. The Department will recalculate the sustainable harvest and anticipates that the Board will adopt a new sustainable harvest before the next decade begins. Not knowing what the results of that process might be, we are using the Westside harvest calculated for the second decade of 537 mmbf, plus an Eastside harvest of 60 mmbf per year, to arrive at the projected timber sales volume of 597 mmbf for FY 2015.

Timber Removal Volume. At the end of April, the Department has 532 mmbf valued at $165.1 million under contract. This is a reduction in the volume under contract from the 557 mmbf under contract when we did the March Forecast, but it is an increase in the value from $158.7 million. We now expect there to be about 10.2 months worth of volume under contract at the end of FY 2011, just about the same as there was at the end of January as sales volume has slowed in the last several months. We expect the inventory to increase to about 12 months worth at the end of both FY 2012 and FY 2013 based on increased sales and slower removals during those years

For each Forecast, we survey DNR timber sale purchasers to determine their planned timing of removals from the timber volume they have under contract at the time of the survey. This Forecast's survey, conducted in the first week of May, indicates that purchasers have plans to harvest more during FY 2011 than they indicated during the February survey. Purchasers plan to harvest 115 mmbf, 22 percent of the volume under contract, this fiscal year (FY 2011) and 416 mmbf (78 percent) next biennium (2011-13) (see **Figure 3.2** for detail).

Figure 3.2: June 2011 Revenue Forecast
Forecast Timber Removal Volume (as of end of April 2011)

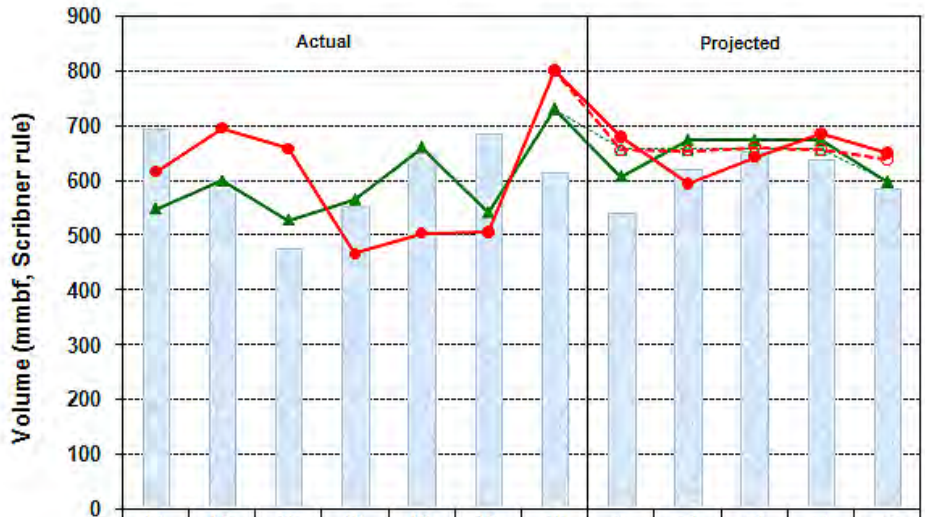


Fiscal Year	06	07	08	09	10	11	12	13	14	15
Sales in FY 15										179
Sales in FY 14									202	303
Sales in FY 13						-	-	202	303	168
Sales in FY 12						-	202	303	168	-
Sales in FY 11						-	63	50	13	-
Sales Under Contract						115	329	87	-	-
Actual Removals to date	658	466	504	506	801	565				
Total	658	466	504	506	801	680	595	643	686	651

Through April, purchasers removed 565 mmbf. Together with the expected removals of 115 mmbf from volume under contract, this brings our forecast of total timber removals for FY 2011

to 679 mmbf—a four percent increase from the 655 mmbf projected in the March Forecast (see **Figure 3.3**).

Figure 3.3: Timber Volume - Sales and Removal

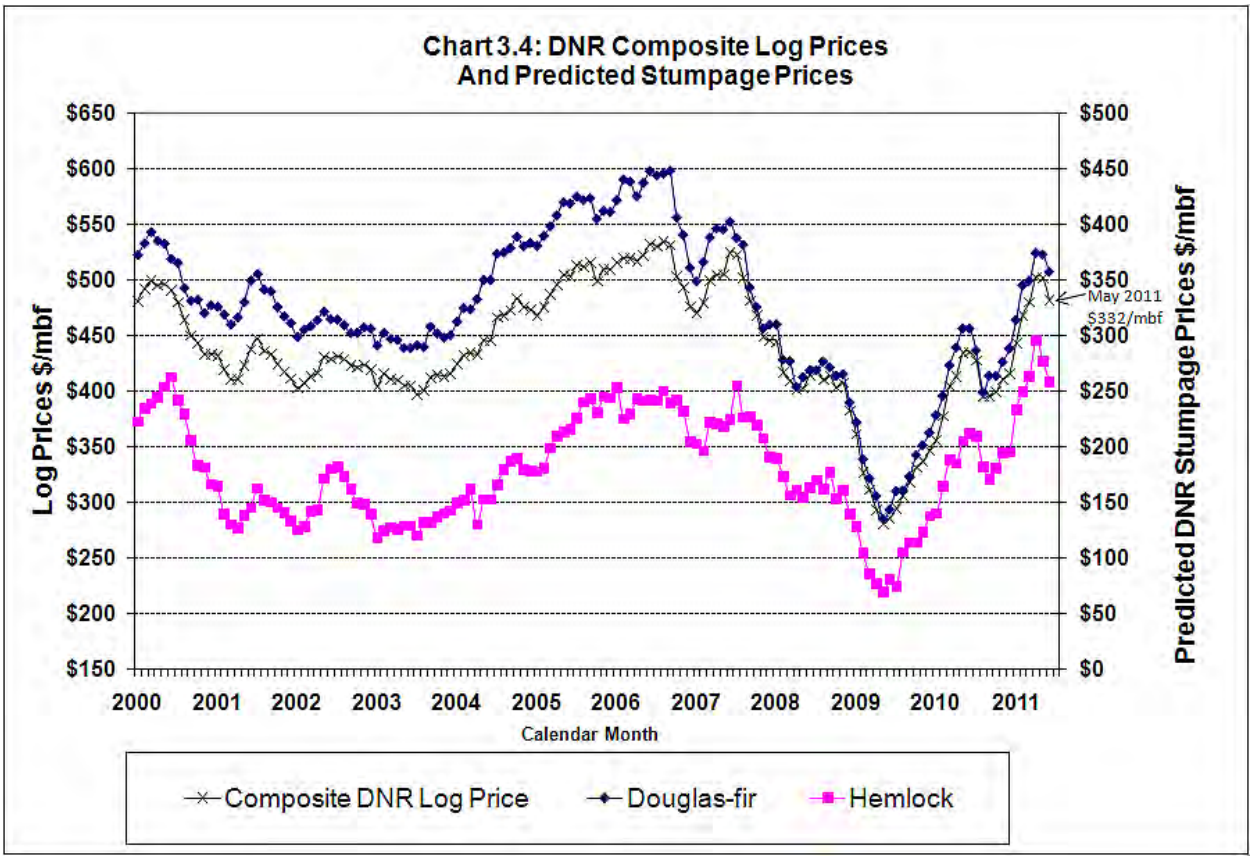


	04	05	06	07	08	09	10	11	12	13	14	15
Inventory	696	599	475	552	650	685	615	542	622	653	640	587
Months Worth of Inventory	12.7	10.6	10.2	13.7	15.5	12.6	10.0	10.2	12.1	11.8	11.5	11.3
Sales - Previous Forecast							730	657	657	657	657	597
Sales - Current Forecast	548	599	528	565	660	541	730	607	674	674	674	597
Change								-50	17	17	17	0
Removals Prev. Forecast							801	655	655	660	657	639
Removals - Current Forcast	616	696	658	466	504	506	801	679	594	643	686	651
Change								24	-60	-17	29	12
Percent Change								4%	-9%	-3%	4%	2%

Projected timber removal volumes for the next biennium, 2011-2013, are reduced by six percent because of the reduction in FY 2011 timber sales. Forecast volumes for the 2013-2015 biennium are raised by three percent because of the higher level of timber sales in FYs 2012-2014 (see **Figure 3.3** for details).

Timber Sales Prices. Composite log prices (weighted by species) are used to predict actual stumpage prices for DNR timber sales (using the formula composite log price minus $150/mbf logging costs). When we did the last Forecast, the composite projected stumpage price had increased every month since July 2010, when it was $245/mbf, to reach $353/mbf in March, the highest level since June 2007 (see **Figure 3.4**). Since then it has fallen to $332/mbf in May.

Actual results of monthly DNR timber sales (shown in **Figure 2.10**) are more volatile. They rose from $293/mbf in July 2010 to a high of $422/mbf in March before falling back to $290/mbf in May. But the year-to-date average timber sales price through May was $345/mbf, better than expected, thanks to especially high results in November 2010 through March (ranging from $351/mbf to $422/mbf.

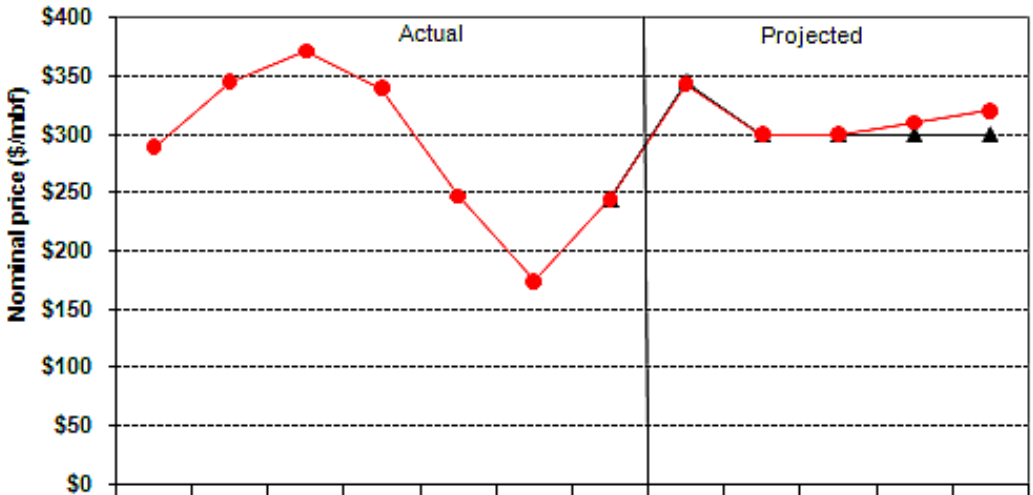


The higher stumpage prices for DNR timber sales in FY 2011 can be attributed to the China effect. Even though logs from DNR lands cannot be exported, an overwhelming majority of logs harvested on private lands in the Coast region last year went to export. This helped drive up the price for DNR logs as they constituted the major source of supply to the mills. However, the mills were put in the squeeze as log prices rose and lumber prices fell. This relationship cannot hold over a long period, so if lumber prices do not pick up we expect DNR timber sale prices to drop and/or the number of no bids to increase.

With FY 2011 nearly completed, we are tweaking our projection of DNR stumpage prices for FY 2011 from $345/mbf to $343/mbf (see **Figure 3.5**). We are leaving our forecast price for FYs 2012 and 2013 unchanged at $300/mbf and are raising the prices by $10 to $310/mbf for FY 2014 and by $20 to $320/mbf for FY 2015.

The forecast of DNR stumpage prices in the next two biennia incorporates our continued pessimism about the long-term recovery of the U.S. housing market. This, however, is offset by expected continued strength in export demand for both logs and lumber and we expect this to favorably influence stumpage prices. When domestic demand starts to grow, this will add upward pressure to stumpage prices, but the timing for a recovery in housing construction remains uncertain. If it happens sooner, then our predicted DNR stumpage prices in the later years of the Forecast will prove to be too low.

Figure 3.5: Timber Sales Prices - Comparison of Previous Forecast with Current Forecast



Fiscal year	04	05	06	07	08	09	10	11	12	13	14	15
Previous Forecast							$245	$345	$300	$300	$300	$300
Current Updated	$289	$345	$371	$340	$247	$174	$245	$343	$300	$300	$310	$320
Change							$0	-$2	$0	$0	$10	$20
Percent Change							0.0%	-0.6%	0.0%	0.0%	3.3%	6.7%

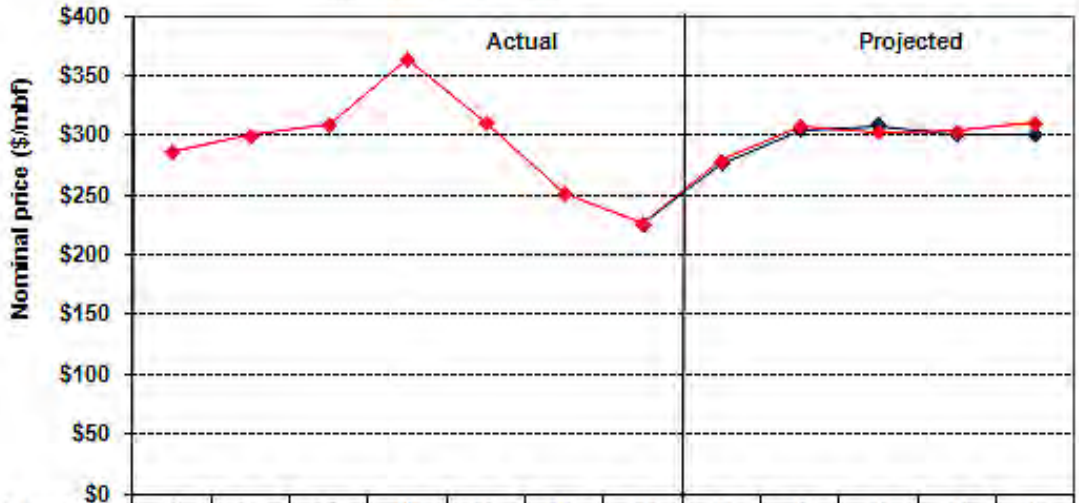
Timber Removal Prices. Timber removal prices are a function of timber sales prices and the timing of the timber's removal. They can be thought of as a moving average of previous timber sales prices, weighted by the volume of sold timber removed in each time period. The removal volumes used to calculate the weights are shown in **Figure 3.2**, which results in a smoothing out and a lag of timber removal prices compared to timber sales prices. For example, sales prices bottomed out at $174/mbf in FY 2009 (see **Figure 3.5**). As shown in **Figure 3.6**, removal prices bottomed out in FY 2010 at $226/mbf, which was $52/mbf higher and a year later than the bottom for sales prices.

Forecast timber removal prices vary only slightly from the last Forecast (see **Figure 3.6**).

Timber Removal Revenues. **Figure 3.7** shows projected annual timber removal revenues and the average removal price for that fiscal year, broken down by the fiscal year in which the timber was sold ("sales under contract" are already sold as of January 2011). Over 81 percent of the forecast timber harvest revenue this fiscal year (FY 2011) will come from sold timber already harvested to date; another 19 percent will come from previously sold timber sales currently under contract as of the end of April.

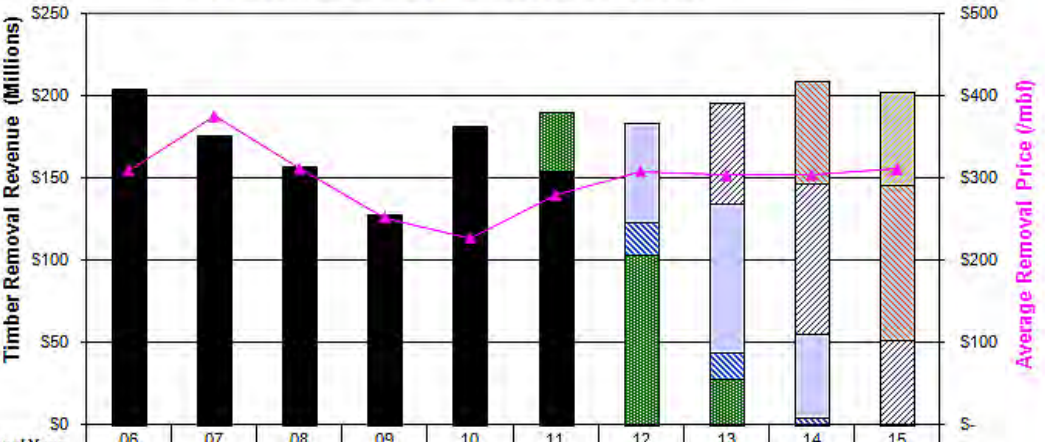
As shown in **Figure 3.7,** most of the timber sold in the remainder of fiscal year 2011 will be harvested in the next biennium (FYs 2012 and 2013).

Figure 3.6: Timber Removal Prices - Comparison of Previous Forecast with Current Forecast



Fiscal year	04	05	06	07	08	09	10	11	12	13	14	15
Previous Forecast							$226	$277	$304	$308	$300	$300
Current Updated	$286	$300	$309	$363	$311	$252	$226	$279	$308	$303	$303	$310
Change							$0	$2	$4	-$5	$3	$10
Percent Change							0%	1%	1%	-2%	1%	3%

Figure 3.7: June 2011 Revenue Forecast
Forecast Timber Removal Value (as of end of April 2011)



Fiscal Year	06	07	08	09	10	11	12	13	14	15
Sales in FY 15										$57
Sales in FY 14									$63	$94
Sales in FY 13								$61	$91	$51
Sales in FY 12							$61	$91	$51	
Sales in FY 11							$20	$16	$4	
Sales Under Contract						$36	$102	$27		
Actual Removals to date	$203	$175	$157	$127	$181	$154				
Total	$203	$175	$157	$127	$181	$189	$183	$195	$208	$202
$/mbf	$309	$375	$311	$252	$226	$279	$308	$303	$303	$310

In the current biennium (FYs 2010 and 2011), forecast timber removal revenues are up by $8.1 million, or 2 percent, to $370.4 million (see **Figure 3.8**). In the 2011-13 Biennium (FYs 2012 and 2013), forecast timber removal revenues are down by $24.7 million, or 6 percent, to $377.7 million. In the 2013-15 Biennium, forecast of timber removal revenues are up by $21.1 million, or 5 percent, to $409.9 million.

Figure 3.8: Timber Removal Revenues - Comparison of Previous Forecast with Current Forecast, 2004-2015

Fiscal year	04	05	06	07	08	09	10	11	12	13	14	15
Previous Forecast							$181	$181	$199	$203	$197	$192
Current Updated	$176.5	$208.4	$203.2	$174.7	$156.6	$127.2	$181.0	$189.4	$183.0	$194.7	$208.1	$201.8
Change							-	8.1	(16.2)	(8.5)	11.0	10.1
Percent Change							0%	4%	-8%	-4%	6%	5%

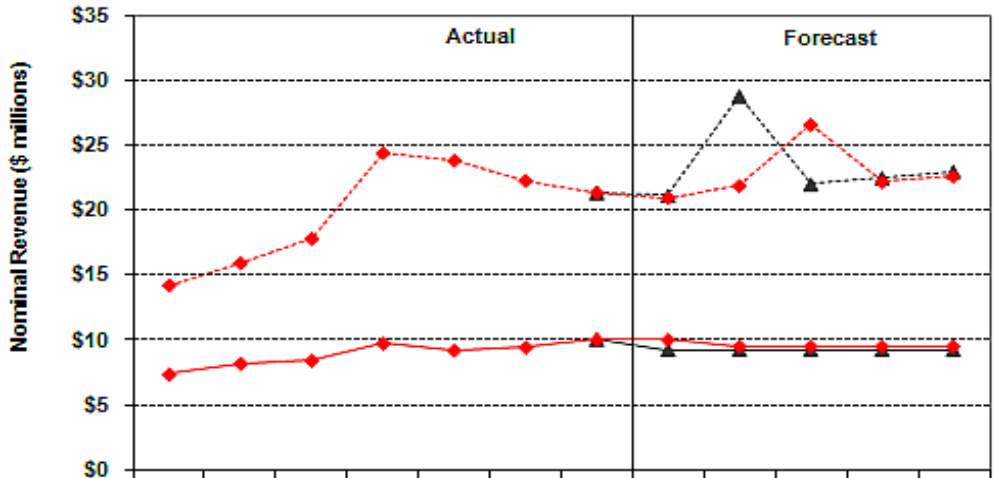
Upland lease revenues

Upland lease revenues are generated primarily from leases and the sale of valuable materials, other than timber, on state trust lands. In this Forecast, upland lease revenues are divided into two categories:

> **Commercial—**Commercial real estate leases.
> **Agricultural and Other**—Agricultural (orchard and vineyard, dryland cropland, and grazing), special use, mineral and hydrocarbon, right-of-way, communication site, special forest products leases, and sales of valuable materials (e.g., rock, sand, and gravel) other than timber.

Commercial. Very few Washingtonians are aware that there are commercial real estate leases on state trust lands. From the interstate, there are no clues that the I-90 Lake Place building in Issaquah or the Boulevard Center building outlying Tacoma Mall are Common School trust assets managed by DNR. But these properties and others together generated $10.0 million in leasing revenue in FY 2010 and are on track to do the same for FY 2011 (see **Figure 3.9**). Our forecast for FY 2011 had been $9.2 million, which reflected a downside risk because of the bleak outlook for commercial real estate. The current U.S. economic downturn has increased the

Figure 3.9: Upland Lease Revenue - Comparison of Previous Forecast with Current Forecast, 2004-2015



Fiscal Year	04	05	06	07	08	09	10	11	12	13	14	15
Ag. & Other Prev. For.							21.3	21.1	28.7	22.0	22.5	23.0
Ag & Other - Current	14.2	15.9	17.8	24.4	23.8	22.3	21.3	21.0	21.9	26.6	22.2	22.6
change							0.0	-0.2	-6.9	4.6	-0.3	-0.4
% change							0.0%	-0.9%	-23.8	20.9%	-1.3%	-1.5%
Commercial Prev. For.							10.0	9.2	9.2	9.2	9.2	9.2
Commercial - Current	7.4	8.2	8.4	9.7	9.2	9.4	10.0	10.0	9.5	9.5	9.5	9.5
Change							0.0	0.8	0.3	0.3	0.3	0.3
% Change							0.0%	8.7%	3.3%	3.3%	3.3%	3.3%

probability that some of DNR's commercial building lessees could default and vacate and that it would be difficult to re-lease at the current rental rates, if at all.

We are revising the forecast of commercial leasing revenue for the almost-completed FY 2011 to $10.0 million based on actual revenues to date (see **Figure 3.9**).

The economic recovery continues to be sluggish and commercial real estate is still in the doldrums, but we are raising our forecast for future years' (FYs 2012-2015) commercial leasing revenue to the $9.5 million level annually based on realizing $10.0 million in the last two years even in the midst of a difficult economy.

Agricultural and Other. For nearly-completed FY 2011, revenues from agricultural and other upland leases now look to come in at $21.0 million, just slightly below the $21.1 million projected in the March Forecast (see **Figure 3.9**). Within subcategories however, FY 2011 revenues from agricultural leases (orchard and vineyard, dryland cropland, and grazing) are projected to be up $0.7 million from the March Forecast at $13.6 million and revenues from other leases (special forest products, special use, communication sites, and rights of way) are projected to be down by $0.7 million to $6.5 million and revenues from mineral and oil and gas leases are projected to be down by $0.2 million to $0.9 million.

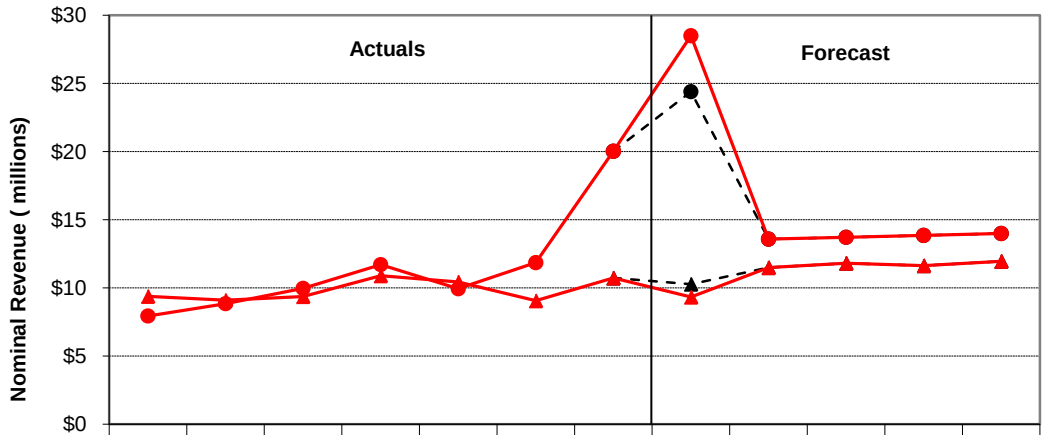
As shown in **Figure 3.9,** we are making a revision to the forecast for the other leases category in FYs 2012 and 2013. This is from moving the proposed sale of improvements (towers, buildings, and equipment) at certain communication sites from FY 2012 to 2013 and reducing the projected proceeds from $7.0 million to $4.5 million. A smaller adjustment to the forecast is made by reducing mineral and oil and gas lease revenue in FYs 2012-2015.

Aquatic lands revenues

Geoduck Revenues. The geoduck harvest year and the state fiscal year do not line up neatly. Most of the time, there are four DNR geoduck auctions that are accounted for revenue purposes during a fiscal year. However, in FY 2011, there were five. It is not known at this time whether there will necessarily be four falling in FY 2012 for revenue purposes, or possibly three.

When we did the March Forecast, it was expected that there would be no more geoduck auctions with revenue accounted for in FY 2011. However, DNR held a geoduck auction in May at average price per pound of $9.64 and has elected to account for the bonus bid revenue in the current fiscal year. Accordingly, we are revising the forecast for FY 2011 geoduck revenue to $28.5 million, up from $24.4 million (**see Figure 3.10**). This makes FY 2011 the record year for DNR geoduck revenue. It is much higher than FY 2010's $20.0 million and contrasts with the seven preceding years FYs 2003-2009 when the average annual geoduck revenue was $10.1 million (falling in a rather tight range of $7.9 to $11.9 million per year).

Figure 3.10: Aquatic Revenues
Forecast Geoduck and Lease & Other, FY 2010-2015



Fiscal Year	04	05	06	07	08	09	10	11	12	13	14	15
Geoduck Previous							$20.0	$24.4	$13.6	$13.7	$13.9	$14.0
Geoduck Forecast	$7.9	$8.8	$10.0	$11.7	$9.9	$11.9	$20.0	$28.5	$13.6	$13.7	$13.9	$14.0
Change							-	4.1	-	-	-	-
Other Previous							$10.7	$10.3	$11.5	$11.8	$11.6	$12.0
Other Forecast	$9.4	$9.1	$9.4	$10.9	$10.4	$9.1	$10.7	$9.3	$11.5	$11.8	$11.6	$12.0
Change							-	(0.9)	-	-	-	

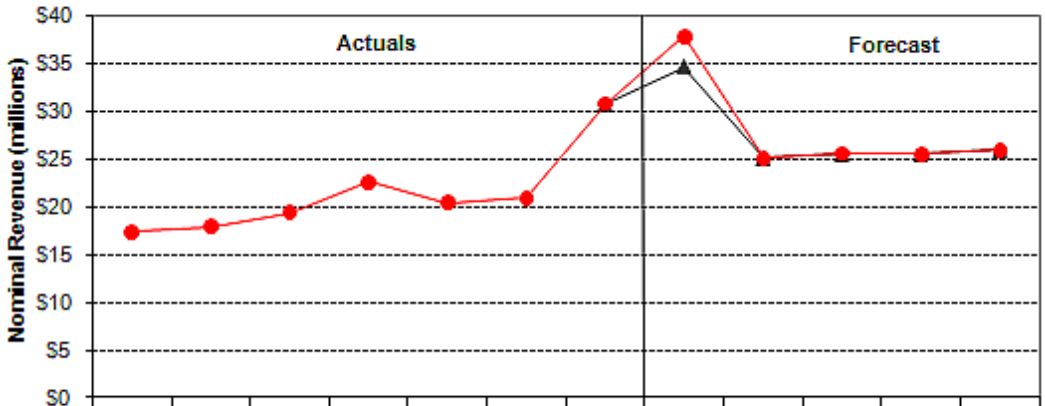
The $9.64 per pound price at the May auction was down slightly from the last six auctions, which have ranged from $9.99 to $10.68 per pound. We do not believe that the lower May auction result is a precursor of falling geoduck prices, but rather an indication that prices continue to hold in the $10.00 per pound range. Our underlying geoduck unit price for forecast purposes is $6.30 per pound for FY 2012, with small increases for FYs 2013-2015 (**see Figure 3.10**). This lower price takes into account the historic volatility in geoduck prices. But as the

price has stayed up around $10 per pound for seven consecutive auctions, we will consider whether to raise our geoduck revenue projections in future Forecasts. So for now there is upside potential to the projections for FYs 2012-2015 if the price continues to stay up. There is downside potential to the FY 2012 projection if only three geoduck auctions instead of the normal four are accounted for in the next fiscal year.

Lease and Other Revenues. Lease and other aquatic revenues are coming in somewhat below projections for the nearly-completed FY 2011 and the forecast is being lowered from $10.3 million to $9.3 million (**see Figure 3.10)**. There is no obvious reason noted for the shortfall. Revenues for the fiscal year are below predictions in the water dependent, non-water dependant, and mineral categories and may be related to the down economy. Projections for FYs 2012-2015 are not changed.

Figure 3.11 shows annual actual and forecasts for all aquatic revenues (geoduck and other) combined. We anticipate that FY 2011's record revenues will be hard to beat any time soon.

Figure 3.11: Aquatic Revenues
Comparison of Previous Forecast with Current Forecast, 2010-2015



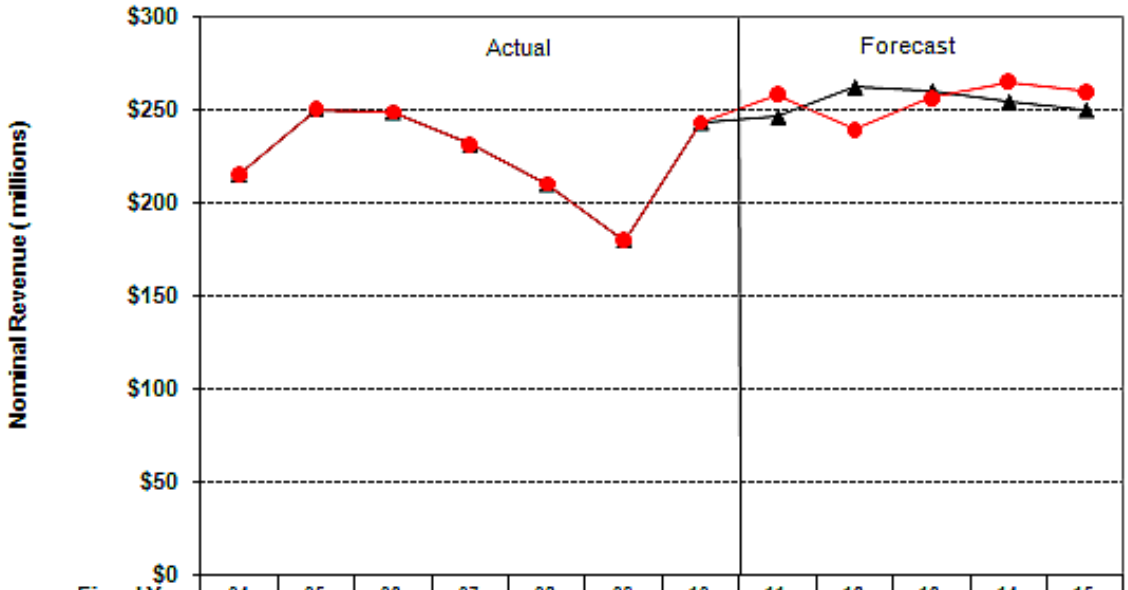
	04	05	06	07	08	09	10	11	12	13	14	15
Previous Forecast							$30.8	$34.6	$25.1	$25.5	$25.5	$26.0
Current Forecast	$17.3	$17.9	$19.3	$22.6	$20.4	$20.9	$30.8	$37.8	$25.1	$25.5	$25.5	$26.0
Change							-	3.2	-	-	-	-
Percent Change							0.0%	9.2%	0.0%	0.0%	0.0%	0.0%

Fiscal year ending June 30

Total revenues from all sources

Forecast revenues for the current biennium (FYs 2010 and 2011) are up from the March Forecast by $11.9 million, or 2.5 percent (see **Figure 3.12**). This is largely due to forecast increase in timber revenues of $8.1 million (see **Figure 3.8**) and $4.1 million from increased geoduck revenue (see **Figure 3.10**).

Figure 3.12: Total Revenues
Comparison of Previous Forecast with Current Forecast, 2010-2015



Fiscal Year	04	05	06	07	08	09	10	11	12	13	14	15
Previous Forecast	$215	$250	$249	$231	$210	$180	$243	$246	$262	$260	$254	$250
Current Updated	$215	$250	$249	$231	$210	$180	$243	$258	$239	$256	$265	$260
Change							$-	$11.9	$(22.7)	$(3.6)	$11.0	$10.1
% Change							0%	5%	-9%	-1%	4%	4%

Revenues during the 2011-13 Biennium (FYs 2012 and 2013) are down from the previous Forecast by $26.3 million, or 5 percent (see **Figure 3.12**). Almost all of this change is attributable to timber removal revenue being adjusted downward (see **Figure 3.8**) due to a reduction in projected removal volumes (see **Figure 3.3**), while forecast removal prices are basically unchanged (see **Figure 3.6**).

Forecast revenues for the 2013-15 Biennium (FYs 2014 and 2015) are up $21.1 million, or four percent, from the previous Forecast (see **Figure 3.12**). This is all attributable to higher timber removal revenue due to a combination of somewhat higher timber removal volume and prices than previously predicted.

Some caveats

DNR strives to produce the most accurate and objective forecast possible, based on the Department's current policy directions and available information. Actual revenues will depend on future policy decisions made by the Legislature and the Department, as well as market and other conditions beyond DNR's control. Listed below are issues that could potentially have a significant impact on future revenues from DNR-managed lands:

U.S. and Global Economic Crisis. The United States is still recovering from the deepest and longest recession since the Great Depression. The burst real estate bubble and the collapse of the financial system caused great damage to the U.S. economy, which spilled over into other countries' economies. The recovery in the U.S. remains slow and uncertain. Many European countries face sovereign debt crises and unpopular austerity measures they are attempting are facing opposition. The U.S. and world economies remain vulnerable to external shocks such as the political uprisings in the Arab world and the Japanese natural and nuclear disaster.

U.S. Housing Market. The housing market remains discouraging. It has been more than four years since the housing downturn began. Inventories of existing homes are beginning to fall but remain high. National home prices are in a second dip and setting new lows in many U.S. cities. New housing starts are at the lowest levels in 50 years. It is possible that the housing recovery will be pushed back even further by a slower-than-expected economic recovery. This would likely result in lower timber sales prices than we currently forecast.

Timber Sales Volume. The volume in FY 2011 DNR timber sales is coming in about 50 million board feet below forecast (607 mmbf versus 657 mmbf). Accordingly, this volume must be made up during FYs 2012 through 2014 in order to meet the 1995-2014 decadal sustainable harvest on DNR managed forest lands. Therefore the annual timber sales volume is being increased by 17 mmbf annually to 674 mmbf for those three years. There is some risk that DNR will not be able to sustain this level of timber sales because of administrative challenges and potential litigation over the marbled murrelet and other environmental issues. The bias on this risk is strongly weighted to the downside.

These and other future circumstances could have a great impact on future Department revenues. As events and market conditions develop, DNR will incorporate new information into future Forecasts. At this point, we judge the downside to the overall forecast to be greater than the upside because of the risks to timber sale volume (and therefore timber removal volume) due to potential environmental and policy issues.

Distribution of revenues

The distribution of timber revenues by trust are based on:

- The value of timber in the inventory (sales sold but not yet harvested);
- The volumes of timber in planned sales for the remainder of FY 2011 and for FYs 2012 and 2013; and
- The distribution of the sustainable harvest for FYs 2014 and 2015.

Timber sales are expected to be harvested on average between 10.2 and 12.1 months after they are sold. (See **Figure 3.3** for details.) Distributions of lease revenues are assumed to be proportional to historic distributions unless otherwise specified.

Since a single timber sale can be worth over $3 million, dropping, adding, or delaying even one sale can represent a significant shift in revenues to a specific trust fund.

Management Fee Deduction. On April 5, 2011, the Board of Natural Resources adopted a resolution to reduce the RMCA deduction to 27 percent (from the 30 percent authorized in Budget Bill) and the FDA deduction to 23 percent. The deduction from RMCA and FDA are assumed to return to their underlying statutory rate of 25 percent at the beginning of FY 2014.

Revenue forecast tables

Tables 3.1 and 3.2 on the following pages provide Forecast details. **Table 3.1** focuses on the source of revenues and **Table 3.2** focuses on the distribution of revenues. Both tables include historical and projected figures.

Table 3.1 June 2011 Forecast by Source (In millions of dollars)

Change from March 2011 Forecast

Timber Sales	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Volume (mmbf)	660	541	730	607	674	674	674	597
Change	-	-	-	(50)	17	17	17	-
% Change	0%	0%	0%	-8%	3%	3%	3%	0%
Price ($/mbf)	$247	$174	$245	$343	$300	$300	$310	$320
Change	$0	$0	$0	-$2	$0	$0	$10	$20
% Change	0%	0%	0%	-1%	0%	0%	3%	7%
Value of Timber Sales (In millions of dollars)	**$ 163.0**	**$ 94.0**	**$ 178.5**	**$ 208.2**	**$ 202.1**	**$ 202.1**	**$ 208.8**	**$ 191.1**
Change	$ -	$ -	$ -	$ (18.4)	$ 5.0	$ 5.0	$ 11.7	$ 11.9
% Change	0%	0%	0%	-8%	3%	3%	6%	7%

Timber Removals	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Volume (mmbf)	504	506	801	679	594	643	686	651
Change	-	-	-	24	(60)	(17)	29	12
% Change	0%	0%	0%	4%	-9%	-3%	4%	2%
Price ($/mbf)	$311	$252	$226	$279	$308	$303	$303	$310
Change	$0	$0	$0	$2	$4	-$5	$3	$10
% Change	0%	0%	0%	1%	1%	-2%	1%	3%
Timber Revenue (In millions of dollars)	**$ 156.6**	**$ 127.2**	**$ 181.0**	**$ 189.4**	**$ 183.0**	**$ 194.7**	**$ 208.1**	**$ 201.8**
Change	$ -	$ -	$ -	$ 8.1	$ (16.2)	$ (8.5)	$ 11.0	$ 10.1
% Change	0%	0%	0%	4%	-8%	-4%	6%	5%

Lease Revenue	FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Agricultural and Mineral	$ 23.8	$ 22.3	$ 21.3	$ 21.0	$ 21.9	$ 26.6	$ 22.2	$ 22.6
Change	$ -	$ -	$ -	$ (0.2)	$ (6.9)	$ 4.6	$ (0.3)	$ (0.4)
% Change	0%	0%	0%	-1%	-24%	21%	-1%	-2%
Commercial	$ 9.2	$ 9.4	$ 10.0	$ 10.0	$ 9.5	$ 9.5	$ 9.5	$ 9.5
Change	$ -	$ -	$ -	$ 0.8	$ 0.3	$ 0.3	$ 0.3	$ 0.3
% Change	0%	0%	0%	9%	3%	3%	3%	3%
Aquatic Revenue	$ 20.4	$ 20.9	$ 30.8	$ 37.8	$ 25.1	$ 25.5	$ 25.5	$ 26.0
Change	$ -	$ -	$ -	$ 3.2	$ -	$ -	$ -	$ -
% Change	0%	0%	0%	9%	0%	0%	0%	0%
Total Lease Revenue	**$ 53.4**	**$ 52.6**	**$ 62.1**	**$ 68.8**	**$ 56.5**	**$ 61.6**	**$ 57.2**	**$ 58.1**
Change	$ -	$ -	$ -	$ 3.8	$ (6.6)	$ 4.9	$ -	$ (0.0)
% Change	0%	0%	0%	6%	-10%	9%	0%	0%

Total All Sources	**$ 210.0**	**$ 179.8**	**$ 243.1**	**$ 258.1**	**$ 239.4**	**$ 256.4**	**$ 265.3**	**$ 259.9**
Change	$ -	$ -	$ -	$ 11.9	$ (22.7)	$ (3.6)	$ 11.0	$ 10.1
% Change	0%	0%	0%	5%	-9%	-1%	4%	4%

Note Trust land transfer is not included in distribution revenues.
This table excludes interest and Land Bank transactions, fire assessments, permits, and fees.
Totals may not add due to rounding.
Draft report - subject to change without notice

Table 3.2: June 2011 Forecast by Fund (In millions of dollars)

Change from March 2011 Forecast

Management Funds		FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
041	RMCA - Upland	$ 32.0	$ 26.5	$ 31.8	$ 33.6	$ 31.6	$ 36.2	$ 34.1	$ 32.9
	Change	$ -	$ -	$ -	$ (0.5)	$ (7.6)	$ (5.1)	$ 0.2	$ 0.4
	% Change	0%	0%	0%	-1%	-19%	-12%	1%	1%
041	RMCA - Aquatic	$ 8.6	$ 8.9	$ 13.9	$ 17.5	$ 10.8	$ 11.0	$ 11.0	$ 11.2
	Change	$ -	$ -	$ -	$ 1.7	$ -	$ -	$ -	$ -
	% Change	0%	0%	0%	11%	0%	0%	0%	0%
014	FDA	$ 18.6	$ 17.3	$ 25.9	$ 26.5	$ 23.4	$ 23.3	$ 26.8	$ 26.9
	Change	$ -	$ -	$ -	$ 2.3	$ (3.5)	$ (1.2)	$ 3.2	$ 2.6
	% Change	0%	0%	0%	9%	-13%	-5%	14%	11%
Total Management Funds		**$ 59.2**	**$ 52.7**	**$ 71.6**	**$ 77.5**	**$ 65.8**	**$ 70.5**	**$ 71.9**	**$ 71.0**
	Change	$ -	$ -	$ -	$ 3.5	$ (11.1)	$ (6.2)	$ 3.4	$ 3.0
	% Change	0%	0%	0%	5%	-14%	-8%	5%	4%

Current Funds		FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
113	Common School Construction	$ 56.6	$ 41.5	$ 47.9	$ 56.0	$ 57.5	$ 67.3	$ 70.1	$ 68.7
	Change	$ -	$ -	$ -	$ 0.6	$ (6.0)	$ 1.0	$ (0.3)	$ 0.4
	% Change	0%	0%	0%	1%	-10%	2%	0%	1%
999	Forest Board Counties	$ 52.5	$ 48.6	$ 67.9	$ 71.9	$ 66.3	$ 66.7	$ 69.2	$ 67.6
	Change	$ -	$ -	$ -	$ 5.7	$ (4.8)	$ 3.1	$ 8.1	$ 6.1
	% Change	0%	0%	0%	9%	-7%	5%	13%	10%
001	General Fund	$ 3.0	$ 1.4	$ 5.0	$ 4.1	$ 3.9	$ 3.0	$ 3.3	$ 3.4
	Change	$ -	$ -	$ -	$ 1.0	$ 0.1	$ (0.4)	$ (0.1)	$ 0.2
	% Change	0%	0%	0%	30%	2%	-12%	-2%	6%
348	University Bond Retirement	$ 2.3	$ 3.4	$ 1.8	$ 1.2	$ 1.6	$ 2.2	$ 2.5	$ 2.5
	Change	$ -	$ -	$ -	$ (0.1)	$ (0.1)	$ 0.2	$ 0.4	$ 0.2
	% Change	0%	0%	0%	-7%	-6%	12%	21%	8%
347	WSU Bond Retirement	$ 1.2	$ 1.6	$ 1.2	$ 1.0	$ 0.8	$ 1.3	$ 1.1	$ 1.1
	Change	$ -	$ -	$ -	$ 0.1	$ (0.2)	$ 0.4	$ 0.1	$ 0.1
	% Change	0%	0%	0%	9%	-21%	38%	10%	10%
042	CEP&RI	$ 3.8	$ 3.8	$ 5.6	$ 5.2	$ 6.2	$ 6.3	$ 6.0	$ 6.2
	Change	$ -	$ -	$ -	$ (0.4)	$ (0.4)	$ (0.7)	$ (1.4)	$ (0.8)
	% Change	0%	0%	0%	-7%	-6%	-10%	-19%	-12%
036	Capitol Building Construction	$ 5.2	$ 5.7	$ 8.7	$ 8.5	$ 8.7	$ 8.6	$ 9.0	$ 8.2
	Change	$ -	$ -	$ -	$ 0.8	$ 0.4	$ (0.2)	$ (0.2)	$ 0.0
	% Change	0%	0%	0%	11%	5%	-2%	-2%	0%
061/3	Normal (CWU, EWU, WWU, TESC)	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1	$ 0.1
	Change	$ -	$ -	$ -	$ (0.0)	$ (0.0)	$ 0.0	$ (0.0)	$ (0.0)
	% Change	0%	0%	0%	-15%	-39%	8%	-16%	-16%
Other Funds		$ 0.2	$ 0.4	$ 0.1	$ 0.0	$ 0.0	$ 0.0	$ 0.2	$ 0.4
	Change	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ (0.4)	$ (0.2)	$ (0.1)
	% Change	0%	0%	0%	-45%	25%	-100%	-58%	-20%
Total Current Funds		**$ 125.0**	**$ 106.5**	**$ 138.3**	**$ 147.9**	**$ 145.0**	**$ 155.7**	**$ 161.5**	**$ 158.3**
	Change	$ -	$ -	$ -	$ 7.6	$ (11.2)	$ 3.1	$ 6.5	$ 6.0
	% Change	0%	0%	0%	5%	-7%	2%	4%	4%

(Continued)

Table 3.2 (Continued): March 2011 Forecast by Fund (In millions of dollars)

Change from March 2011 Forecast

Aquatic lands Enhancement Account		FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
02R		$ 11.7	$ 12.0	$ 16.8	$ 20.3	$ 14.3	$ 14.6	$ 14.5	$ 14.8
	Change	$ -	$ -	$ -	$ 1.5	$ -	$ -	$ -	$ -
	% Change	0%	0%	0%	8%	0%	0%	0%	0%

Permanent Funds		FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
601	Agricultural College Permanent	$ 4.3	$ 2.9	$ 6.1	$ 3.3	$ 3.2	$ 3.3	$ 3.5	$ 3.7
	Change	$ -	$ -	$ -	$ (0.4)	$ (0.5)	$ (0.9)	$ (0.6)	$ (0.1)
	% Change	0%	0%	0%	-10%	-13%	-22%	-15%	-3%
604	Normal School Permanent	$ 3.1	$ 2.5	$ 4.0	$ 2.8	$ 2.5	$ 2.7	$ 3.2	$ 3.0
	Change	$ -	$ -	$ -	$ 0.3	$ (0.3)	$ (0.5)	$ 0.0	$ 0.1
	% Change	0%	0%	0%	11%	-12%	-15%	0%	4%
605	Common School Permanent	$ 0.2	$ 0.3	$ 0.4	$ 0.4	$ 0.4	$ 0.5	$ 0.4	$ 0.4
	Change	$ -	$ -	$ -	$ (0.0)	$ (0.1)	$ 0.1	$ (0.0)	$ (0.0)
	% Change	0%	0%	0%	-1%	-24%	21%	-1%	-2%
606	Scientific Permanent	$ 6.0	$ 2.8	$ 5.1	$ 5.4	$ 7.5	$ 8.7	$ 9.9	$ 8.4
	Change	$ -	$ -	$ -	$ (0.6)	$ 0.4	$ 0.8	$ 1.9	$ 1.1
	% Change	0%	0%	0%	-10%	6%	11%	23%	16%
607	University Permanent	$ 0.5	$ 0.1	$ 0.7	$ 0.5	$ 0.7	$ 0.5	$ 0.4	$ 0.2
	Change	$ -	$ -	$ -	$ (0.0)	$ 0.0	$ 0.0	$ (0.1)	$ (0.1)
	% Change	0%	0%	0%	-6%	7%	4%	-24%	-23%
Total Permanent Funds		$ 14.1	$ 8.6	$ 16.3	$ 12.4	$ 14.4	$ 15.7	$ 17.4	$ 15.9
	Change	$ -	$ -	$ -	$ (0.7)	$ (0.5)	$ (0.5)	$ 1.1	$ 1.1
	% Change	0%	0%	0%	-6%	-3%	-3%	7%	7%

Total All Funds		FY 08	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15
Total		$ 210.0	$ 179.8	$ 243.1	$ 258.1	$ 239.4	$ 256.4	$ 265.3	$ 259.9
	Change	$ -	$ -	$ -	$ 11.9	$ (22.7)	$ (3.6)	$ 11.0	$ 10.1
	% Change	0%	0%	0%	5%	-9%	-1%	4%	4%

Note: Trust land transfer is not included in distribution revenues.
This table excludes interest and Land Bank transactions, fire assessments, permits, and fees.
Totals may not add due to rounding.
Draft report - subject to change without notice